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We, the subscribers, have carefully read the following Essay on Malignant Fever, and recommend its publication. We also consider the author entitled, for his zeal and industry in investigating the subject, to the compensation offered by the Proprietor of the Medical Recorder

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## A SERIES OF ESSAYS

*On the Causes, Symptoms, Morbid Anatomy, and Treatment of some of the principal Diseases of the Southern States.*

By SAMUEL A. CARTWRIGHT, M. D. of Natchez.

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## ESSAY I.

*On Malignant Fever.*

I shall commence these essays with an account of the malignant fever of Natchez in 1823. Until physicians are more successful in the treatment, and less divided about the nature and origin of malignant fever, further facts and observations relative to that disease will need neither preface nor apology. For it is only by a faithful narration of all the apparent sources of the disease, its symptoms, its pathological anatomy, and the effects produced on it by *remedial agents*, whenever it has been epidemic in the *same*, and in *different* places, that its pathology and treatment can ever be correctly ascertained. I intend in the present essay, to contribute, as far as I am able, to the general stock of information already possessed on this subject, by giving an account of an epidemic malignant fever which came under my immediate observation. This was probably the most terrible epidemic that ever prevailed in the United States. A detail of all its

apparent sources, its symptoms, the effects produced on it by medicinal substances, and the *post mortem* appearances as discovered by an accurate and patient dissection of twenty subjects who fell victims to it, cannot fail of throwing considerable light on its cause, its nature, and its cure. That all its apparent sources may be better understood, I will briefly advert to the topography of Natchez.

Natchez is situated in latitude 31° 32′, and longitude about 91°, on the eastern side of the Mississippi. It stands on a bluff about two hundred feet above the surface of the water. Between the foot of the bluff and the brink of the river, a narrow slip of land extends, which is occupied by a few rows of houses, and affords a landing place for boats, with which it is often crowded for half a mile or more in extent. This part of the city is called the Landing or Under the Hill. On ascending the bluff, we have a fine opportunity of viewing the various strata of earth which compose it. The bluff rests on a foundation of sand, above which there lies a stratum of clay, ten or twelve feet in depth. After passing several alternate argillaceous and siliceous strata, we come to a stratum of loam, fifteen or twenty feet in depth, composed of clay, sand, the oxyde of iron, carbonate of lime, and numerous fluviatile shells. Above this there is another stratum of clay, on which rests the upper stratum, marl, of no considerable depth, composed of argil, lime, and the debris of vegetable substances. Having ascended the bluff, we find ourselves in the *promenade* ground of the city. It is an area unoccupied by houses, about one hundred and fifty yards wide, and lies between the margin of the bluff, and the first street that runs parallel with the city, and is intended for what its name imports. The area on which the city stands was formerly hilly; but, within these few years past its inequalities have been considerably reduced, particularly in those parts occupied by the streets. As the partial levelling of the site of the city has, I think, been *erroneously* considered as the cause of the malignant fever, which has three times visited it, viz. in 1817, 1819, and 1823, I have given a short geological description of the ground on which it stands.

The streets are wide, but excepting the foot-walks, are not paved; as there are no rock nor stone for many miles around, from the alluvial character of the soil; the foot-walks are rendered cool and pleasant by the shade of the Melia Azederach or Pride of China. The water of cisterns is generally used by the inhabitants, though some few drink that of the river. There are no wells, from the immense depth of the

water below the surface. The country immediately around Natchez, on the eastern side of the river, is very high and hilly, interspersed with deep ravines or *bayous*, which are generally dry during the summer, but which afford torrents of water in the rainy season. On the western side of the river, the land, for thirty or forty miles, is remarkably low and level, interspersed with bayous, swamps, and lakes, which abound with alligators. This low country, excepting those parts which are protected by artificial embankments or levees, is annually overflowed by the Mississippi. As soon as the water subsides in the spring, the crops are planted, and produce abundantly: sometimes, however, the inundation continuing later than usual, prevents the cotton from coming to full perfection; as in 1823, when the yellow fever visited Natchez, and, likewise, in 1815 and 1824, when it did not appear. The inhabitants of the low country in 1823, were not more sickly than usual; their diseases were chiefly intermittents and remittents. It afforded a safe retreat to the citizens of Natchez, who fled to avoid the yellow fever. Many, who were ill with the disease, were carried across the river, which is but a mile wide, and died opposite to the city in this low district; yet in no instance was the disease communicated. It is worthy of remark, that the disease extended to a greater distance into the county, on the same side of the Mississippi with the city, than the breadth of the river, yet never crossed it, though the country is high and hilly, interspersed, not with swamps and lakes, as the low land on the other side of the river, but with cultivated fields of cotton, with country seats, environed by the China and fig tree, and with delightful groves, in which nature, as if emulous to rival art, has mingled her indigenous productions, with the most wild and fantastic profusion.

The atmosphere of Natchez and its vicinity is always so remarkably damp, that clothes and furniture soon become mouldy, and metallic instruments speedily rust; in the spring and summer of 1823, this was more particularly the case. So great was the humidity of the atmosphere in July, that I have, on walking out at night, found my locks as wet as if they had been exposed to a shower of rain. A shoe merchant informed me, that it required constant attention to keep the *mould* from his shoes and boots. The nuisances in and about Natchez, in 1823, are now mentioned. On the margin of the bluff, at the southern extremity of the city, there is an old fort, built by the Spaniards, near which, about one half an *arpent* of land is sunk below the level of the ad-

jacent bluff, in the shape of a triangle, its base being open and looking towards the river, with its apex towards the city. At its base it is ten or fifteen feet deep, and diminishes gradually in depth towards its apex, which is nearly on a level with the bluff. This, for several years previous to 1824, was the grand reservoir of all the filth, and the depository of all the dead animals, of the city and suburbs.

In the spring and summer of 1823, it contained numerous carcasses and other kinds of filth, which attracted to it large flocks of carion crows, which they were unable to destroy as fast as it was supplied, until the appearance of the fever put a stop to further deposits. During the prevalence of that disease, I visited this place—it was white with bones, as the carcasses were devoured, and the stench was nearly gone. On a subsequent visit, shortly after a rain, the stench had again become almost intolerable; Dr. Tooley and Mr. Parkerson, who also visited it, were nauseated by the fœtor, and compelled to retire. In the south-eastern part of the city, on lot No. 4 and square No. 21, which can be seen by a reference to the annexed plate, there was a house, which contained a considerable part of a boat-load of bacon, pickled pork, and fish, nearly all of which, in the month of July, was in a state of putrefaction. Some of the bacon and pork was taken out of the barrels and hung up in the lower room of the house and in the back yard, which still continued to putrefy. The floor of the house and yard was covered with fetid brine, abounding with myriads of worms. The stench was intolerable. These putrid provisions were not removed *until* the yellow fever appeared. In addition to all this, in the south-western part of the city, on square No. 2, there was a large pile of putrescent oysters, which were not removed until the epidemic broke out. For more than a month preceding the epidemic, the medium heat was about 80° of Fahrenheit. During this time. there were frequent showers of rain, succeeded, for several hours at a time, by a *breathless* state of the atmosphere. When the wind blew, it was from the west or south-west—sweeping over a country of recently inundated land, of thirty or forty miles in extent. About this time the streets and gutters were kept clean, and the streets and back yards daily sprinkled with lime. There was no stagnant water in the city, nor were the cellars in a worse condition than is common in cities. I have thus given the topography of Natchez and its vicinity, and have pointed out all the apparent sources of the yellow fever of 1823. In June and July, the common bilious fever of the country

prevailed in the city, but there were but few deaths. At length the progress of the bilious fever was suddenly arrested, and nothing but the lichen tropicus, or prickly heat, disturbed the peace of the citizens. About this time the cats took a distemper, of which many died. From the 1st to the 9th of August, excepting one child, there was not a death in the city.

On the 9th of August, *in the house* containing the putrid bacon, pork and fish, Mrs. Wynn fell a victim to a violent fever, which proved fatal in less than four days from its first attack. August 11th, two days after the death of Mrs. Wynn, Mrs. Van Campen, living in the *same* house, died on the fourth day of her disease. I have been credibly informed, that both of these ladies had black vomit. On this day, Miss Eliza Blake died of a disease reported to be *fever*. She died in a distant part of the city, but had, until the time of her illness, frequently visited Mr. Neuman's family, living on the *same* square and *near* the house, containing the putrid animal matter. Judge M'Caleb, who lived ten miles from Natchez, came into town on the 11th, and dined with the *same* family; he remained only part of a day, returned home, was taken sick on the 15th, and died on the 18th, of yellow fever, as stated by his physician, Dr. Hunt.

August 13th.—Mr. Still died, on the third or fourth day of his illness; he lived *nearly opposite* the house and directly opposite the back yard of the *house*, containing the putrid provisions.

The brine, from the putrid bacon and pork in the back yard, had run across the street to the very door of Mr. Still's house, which was kept shut to avoid the fetid odour.

August 16th.—Three days after the death of Mr. Still, Mr. Henry M'Guire, living *at* Mr. Still's, died on the fourth day of his disease. Mrs. Mary M'Guire was also taken sick on this day, at the *same* house—fled to Washington, and died on the 22d. On this day, John Hanna died of malignant fever.

August 17.—Betsey Gardiner died at the hospital, after a few days illness. Both she and her child were taken sick *at Mr. Still's*. In the neighbourhood of the putrid matter, Mr. James Roberts, and a child of Mr. Samuel M'Cammant's died, after a few days sickness. Mr. Coleman, lately from Kentucky, died on the ninth day of his disease, which was reported to be remittent fever. He lived in a distant part of the town; also, Messrs. Workman and Hart, in the hos-

pital, the first of cholera morbus, and the latter of bilious fever.

August 19th.—Samuel Thornbury, Esq. died of yellow fever, in a distant part of the town; he had *lodged*, previous to his illness, nearly opposite the *house* containing the putrid bacon, pork and fish.

August 20th.—Mr. Hugh Moore and his wife died of yellow fever. The back yard of third house contained the putrid oysters above mentioned.

These were *all* the deaths which took place in Natchez, the first twenty days in August. They were confined to the neighbourhood containing the putrid materials, excepting Messrs. Workman and Hart, who died in the hospital; the one of cholera morbus, the other of bilious fever; Mr. Coleman, the Kentuckian, who died of remittent fever, and Mr. Hanna, of malignant fever. The latter died in a distant part of the town from that containing the spoiled provisions; but before his attack, he had been fishing on Lake Concordia, three miles west of Natchez. He got very wet and fatigued himself very much by walking in the heat of the day, came to town, sat up nearly all night, and what he was never known to do before, drank too freely of spirituous liquors; he was soon attacked with *a fever*, which was quickly fatal. I have not been able to ascertain, whether he had been immediately in the vicinity of the putrid animal remains. This was the *only* case of the disease, which did not originate immediately in their vicinity, until the 21st, when the disease suddenly appeared in various parts of the city—alarmed the citizens, and drove a great majority of them to the country. But it is worthy of remark, that until the 25th, when seventeen died of yellow fever, the disease was principally confined to the southern district of the city and suburbs, which contained the putrid animal matter. Families living in the suburbs of the southern and eastern parts of the city, among whom were that of Mr. Jonathan Thompson, and several hands belonging to Mr. Breill, were attacked *sooner* than those who lived in the block of the *northern* district. The former were nearer the animal remains than the latter. It was several days after the disease became general in the block of the city, in its southern and eastern borders, before the inhabitants in the northern suburbs were attacked;—and it was almost two weeks after the flight of the inhabitants, before the disease appeared among the people living at the Landing, or Under the Hill.

About the middle of September, I was called to visit a

patient with yellow fever, who lived from half a mile to a mile from the block of the city, that declared they had not been in town for some months. Ultimately, few families within a mile, entirely escaped.

About the 12th of September, there fell a considerable quantity of rain, accompanied with a strong wind. During this time, fewer were attacked; but those who were already ill, got worse. It was after this rain and wind, that the disease sprang up at different points within a mile of the city. A heavy rain and wind occurred about the 20th of October, and the thermometer fell to near 40°. The disease now began evidently to decline. Nevertheless there were a few cases until the 1st of November, but principally among those who ventured in town too early. Some of those were attacked after there was a smart frost. Early in November there were several severe frosts, and the citizens who had fled to the country, returned to their homes. I had, however, a case of genuine yellow fever, as late as the 12th of November. This patient, shortly after returning to town, got intoxicated, and in this condition was shut up in a close room which had not been ventilated. Here he remained more than twenty-four hours, and was shortly afterwards attacked with the yellow fever, which soon proved fatal. Dr. Denny, also, visited him in consultation, and pronounced it a case of yellow fever. It was generally remarked, that those who lived in the lower stories, were more obnoxious to an attack of the epidemic, than those who occupied upper rooms. Although numbers of the sick were removed to the country, I have not been able to ascertain a single instance, in which the patient communicated his disease to the nurses or attendants. The town of Washington is but six miles from Natchez. It was crowded with a great number of the citizens, who had fled to it, some sick, others dying, and others who took the disease shortly after their arrival; yet in no instance did the inhabitants of Washington take the yellow fever, unless they breathed the atmosphere of Natchez. A daily and free intercourse was constantly kept up between the two places. The Rev. Mr. Burrows lived only a mile and a half from Natchez. Two families, besides his own, together with several young men, resided with him, and several other families occupied his out-houses. Persons with yellow fever were taken in, nursed and attended to, by the family; yet no one took the disease. Some of them were also present and afforded me assistance in the dissection of several subjects, who died of yellow fever. The dissection was car-

ried on in an out-house, but a few rods from the house occupied by the three families that escaped the disease.

*Symptoms of the Malignant Fever of* 1823.

The disease was marked by three distinct stages, each of which had its peculiar symptoms. As it might in its first and second stages have been mistaken for *some other* malady, I will only describe the last stage, which presented features altogether peculiar, and could be confounded with no other disease whatever. In the last stage, there was apparently no fever, and little or no pain. The patient often regained his strength so far as to be able, in the most of cases, to walk about his room. His eyes were of a yellowish-red, sparkling appearance, and lent to a countenance otherwise of apathy, a strange expression of wildness and horror. Black dissolved blood oozed from the mouth, the gums, and the nose; coffee-ground vomit, or a dark brown flaky matter, with but little effort, was thrown from the stomach; anxiety, restlessness and great flatulency of the stomach, portended and accompanied its discharge; spasms seized the muscles; the breathing became heavy, slow, and irregular—attended often by a hoarse, deep, sullen sound. The speech became incoherent; yet when the patient was spoken to, he appeared to be able to collect himself so far as to answer questions rationally, and although sensible of his situation, seemed resigned to his fate. These were the symptoms that characterized the third or last stage of the disease. Although all of them did not invariably occur in every patient, yet a sufficient number were generally present to point out the character of the disease to the medical attendant, the moment he entered the sick room. Having thus grouped together the most striking symptoms which characterize the last stage of the disease, I now proceed to a more particular description of it. As soon as the disease passed into the last stage, *fever*, in the etymological sense of the term, entirely disappeared, and all severe pain subsided. The patient, before debilitated, without any sensible evacuation having taken place, either from the kidneys, liver, or skin, would often regain his strength so far as to be able to walk about the room. The pulse was seldom above, but more often *below*, the healthy standard; the same may be said of the temperature of the surface. If the disease paused in its progress, it was fallacious; for soon the appearance of black vomit, or some other untoward symptom, blighted the hopes that might have been entertained of recovery. In this stage the

skin was not dry, but always somewhat moist; yet had a greasy, lifeless feel. Great irritability of stomach was a very common and troublesome symptom in this, as well as in the first stage. It generally preceded the black vomit, and although the straining in the act of vomiting was much greater before, than after the occurrence of this fatal symptom, no matter of any kind was ejected from the stomach, excepting the drinks and a little glairy matter, resembling the white of an egg. A remarkable phenomenon that took place in the latter part of this stage, was the facility with which the bowels were often moved. Any cathartic would now readily purge, notwithstanding the previous paralysis of the bowels; yet no other part of the system, but the alimentary canal, seemed to be affected by whatever remedy was given; no bile was discharged by purgatives; diuretics had no effect on the kidneys, nor emetics or sudorifics on the skin. The whole alimentary canal appeared to be as much insulated, as if it did not belong to the rest of the system. The sympathies of the various organs were suspended, as a remedy applied to one, produced no other effect on another.

A long expiration, followed by a quick inspiration, gave a peculiar catch or jirk to the breathing. Sometimes one side of the chest, in respiration, acted before the other: particularly in those patients in whom death took place by the lungs. The disease generally terminated fatally on the third day, or the patient speedily recovered. The milder cases run on to the fifth: there were some protracted cases: some few reached the thirtieth day. In three cases in which the disease passed the fifth day, the skin, throughout its whole surface, assumed a bright yellow hue—the tunica conjunctiva particularly. The bright yellow skin never occurred before the third day: the skin, it is true, became yellow very frequently by the third day, yet the colour was not bright, but of a muddy yellow, wanting the glossy hue of the more protracted cases. In these, convalescence was very slow. The apparent absence of fever, was not only a characteristic symptom of this disease, but when accompanied with an accession of strength from no evident cause, invariably portended a fatal termination. I had a patient in Natchez hospital, a shoemaker, whom I left one evening remarkably debilitated, in the first stage of yellow fever. Next morning I found him sitting up and very busy at his trade. He had procured a set of tools and some leather, and had nearly finished making a shoe. His tongue was furred. He had several alvine evacuations the preceding night, but they con-

sisted only of bloody water. Neither the liver, the kidneys, nor skin, performed their functions. He was slightly delirious, and had passed the night without sleep. On visiting the hospital the next day, I found him a corpse. I have known no less than four or five patients, in the hospital, in the last stage of their disease, suddenly acquire a great accession of strength, arise from their beds, get hold of brooms or some such things, and parade the rooms, beating and blustering about to the great terror of the whole house, until their death, which took place suddenly. The red eye was also a characteristic symptom. It was present throughout its various stages. I do not here allude to the red eye from inflammation or engorgement of the tunica conjunctiva. This membrane was, sometimes, engorged with blood and occasionally inflamed, but more generally, it was of a yellowish tint, and sometimes its structure presented no unusual appearance. In the last stage of the disease, it was frequently moistened by a fluid more glossy and of more consistence and tenacity than natural. When this membrane, in the first and second stages, had been inflamed, in the last stage a purulent matter would be seen to adhere to it, or a bloody water run from it. But whether the tunica conjunctiva was inflamed or not, the eye continued to have, throughout the various stages of the disease, a yellowish red gleaming appearance—not unlike that of a cat in the dark. This peculiar appearance seemed to depend, not upon any affection of the tunica conjunctiva, but upon some change which had taken place deep within the globe of the eye, as if the pigmentum nigrum were changed to a greenish-brown—and instead of absorbing all the rays of light, reflected the red and yellow rays; thus giving to the organ a yellowish-red, gleaming appearance. The red eye of yellow fever, although it may be combined with, is very different from, ophthalmia. It has not the arid look of ophthalmia; it bears the light without becoming bedewed with tears, and the patient does not, as in ophthalmia, blow his nose, to free the canalis nasalis of tears. In ophthalmia the patient cannot open his eyes in a strong light, without considerable effort, and he also suffers great pain from its stimulus; but in yellow fever, he often starts up and opens his eyes in a strong light, without an effort and without suffering pain; and when his wants are supplied he half shuts his eyes, not as if the light were painful, but only too dazzling. The red eye not only characterized the disease, but seemed to be peculiar to it. These are the symptoms of the third or last stage; the

first consisted in a *broken* or irregular *reaction*, and the second or middle stage, in a *general* excitement diffused throughout the system. The second stage, or stage of general reaction, scarcely needs to be described, as it is so similar to what occurs in other diseases. In this stage, the whole surface of the body was preternaturally hot, the pulse full and strong, the pain in the head and back almost intolerable, and the thirst insatiable. Its duration was from one to forty-eight hours.

In a great many cases, the worst cases too, the state of the system which constitutes this stage, never occurred; but the disease passed immediately from the first to the last stage, without going through the second stage of reaction. These were called the cold cases of yellow fever, or yellow fever without reaction.

The approach of the first stage of the disease was announced by an intoxicated appearance, and a remarkable exhilaration or depression of spirits, and was soon ushered in by a cotemporaneous sensation of heat and cold. The patient, although complaining of great internal heat, was often found under one or more blankets, which he would not permit to be removed. His skin, which to him felt excessively hot, was often actually cold to the touch. Yawning, stretching, soreness of the flesh, achings of the bones, and at length flatulency of the stomach, with great weight and oppression about the præcordia, took place, followed by pain in the head, stomach, and back.

The pain, in this stage, was never so severe as in that of general reaction. Indeed, it was sometimes entirely absent. It was remarked by a very intelligent and accurate observer of the disease, Dr. Gustine, that the most fatal cases were those which were attended with the least pain. General reaction never took place in those cases; the disease was always more fatal when the excitement never became generally evolved, and hence pain, a consequence of increased sensibility, which is necessarily associated with a diffused excitement, never occurred. A want of thirst also attended the disease in its first stage. The tongue was then seldom much furred; its edges were often red; sometimes it presented no unusual appearance in the most malignant cases. The patient, in this and the second stage, was as anxious about living, as he was indifferent and careless of life in the last stage. As the first stage advanced, a violent vomiting would often come on, attended by spasms in the legs and arms; a slight perspiration, unequally diffused, would bedew the

skin; which, in a few minutes, would dry up, and again appear, as if forced out by the violent exertions of vomiting.

The ataxic or broken reaction was now the most evident; as the head and breast were burning hot, the extremities cold; the temporal arteries throbbing violently; the pulse at the wrist small and feeble. On placing the hand over the abdomen, a strong pulsation could be felt. The patient became more restless, and suffered more pain, in proportion, as the fever (strictly so called,) spread itself over the system. At length, the ataxic reaction or partial fever of the first stage, passed into a general reaction or fever, constituting the second stage of the disease, unless by a want of energy in the system, or prudence in the practitioner, it became gradually extinguished by the apyrexial state, which constituted the third or last stage. When it was about to make this unfortunate transition, the fever, which had spread itself only half over the system, gradually abated, and left the patient with apparently no fever. The duration of the first stage was generally from one to twenty-four hours. It could readily be distinguished from the second period, by the partial evolution of heat in the one, and the uniformly hot surface of the other. The patient was found covered up with bed clothes in the first stage; but in the second and third, he greatly preferred lying entirely naked.

### *Prognosis.*

Few or no patients recovered, in whom the ataxic fever of the first stage, was not succeeded by a general fever or reaction.

The sooner the disease passed into the second stage, the greater were the chances of recovery; and still more so, if the second or reacting stage, continued long enough to enable the practitioner to restore to their proper action, the skin, the liver, and the kidneys: for during the ataxic fever of the first stage, it was impossible to anticipate the effects of such medicines as authors recommend in yellow fever, and consequently to prognosticate the issue with any certainty. This stage sufficiently proved, that in what way howsoever medicines may be classed in books as cathartics, sudorifics, &c. they only possess these properties, in particular states of the system. For had the various articles of the Materia Medica never have been used, but in such a state of the system as occurs in the first stage of yellow fever, many of them that now rank high, would have been found to be wholly inert. Although but little could be foretold from

the symptoms as to the issue of the disease in its first stage, yet much, as it relates to its probable termination, might be gathered from other circumstances. At the close of the epidemic, neither Dr. Gustine, nor myself, could recollect a single individual that recovered, who had been attacked during, or immediately succeeding a fit of intoxication. Such patients the disease at once overwhelmed, by paralizing the various organs, so that general reaction never took place. Out of a great number of patients who were attacked under gonorrhœa or syphilis, I know of but one in either disease, and on inquiry, can hear of no more, who recovered. Several patients were attacked while in a state of salivation from mercury—they all died, and two-thirds of those who died in Natchez hospital, had either gonorrhœa or syphilis.

Of the whole number that perished, Dr. Tooley estimates the intemperate at more than a third. If the patient were robust, healthy, and plethoric, in the prime of life, youth and vigour, the prognosis is more unfavourable than in a weakly, delicate, and sickly patient, provided at the time of the attack, no organic disease exist. The prognosis is still more unfavourable if the patient be not acclimated, if he had not experienced much sickness, nor had led a temperate life; but more favourable, if he were accustomed to sickness, acclimated, temperate, advanced in life, and more especially if he had been the subject of yellow fever before. Although I have attended on several patients in the second attack (though not in the same season,) of yellow fever, I have lost none. Yet I have known a second attack, in more than one instance to prove fatal. All persons, of whatever country, age, sex, or colour, were more or less obnoxious to an attack from the epidemic: but after they had had an attack of it, as a general rule, they were exempt from a second, during the same season, and when convalescence once took place, it was never interrupted by *relapses*. To this general rule I have seen no exception. Dr. Gustine, however, thinks he has seen some few, and in his judgment I place great confidence. I attended on a person in this fever, who entirely recovered, and in a few weeks afterwards was attacked, after getting wet, with fever and pain in the side, which soon yielded to blood-letting. The symptoms of the second attack were as different from those of the first, as two diseases can differ from one another. The fatality of the disease was greater among the natives of our northern states, the Dutch and the Irish, than among the natives of the south, the negroes, the French and the Spanish.

The disease was less fatal among women than men, and more so among women than children. Five of the aboriginal inhabitants, belonging to the Choctaw tribe, came into the city during the prevalence of the epidemic, and afterwards encamped two miles from the city. Four of these children of the wilderness took the disease, three men and one squaw. They were most barbarously burnt. The squaw was covered with large ulcers, produced by fire, from the pubis to the chin, and was writhing and groaning by the side of her grave, which the well Indian had dug to put her into, as he had prognosticated her death; but the men bore their pain in sullen silence and with savage fortitude—disdaining to disgrace themselves, as men and warriors, by imitating the groans of the squaw, but applied to their own skins the lighted spunk, nor flinched, nor seemed to feel its corroding fire. Two died at the encampment; the other two were removed.

### *Prophylaxis.*

On taking a review of the inhabitants of Natchez who remained in the city, that either escaped the disease entirely or had it but mildly, and of those to whom it proved fatal, I have been furnished with numerous facts, from which, by fair induction, many important conclusions may be drawn. 1st, as it respects the best method of preventing the disease, while *usual health* exists; and 2dly, the best method of preventing the disease, when those who are exposed to its causes become *indisposed.*

I proceed then, in the first place, to the consideration of the means, which, so far as my observations extend, were found to be the best calculated to guard the system against an attack of yellow fever while the usual health exists, there being present no indisposition, no unusual or strange sensations, no organ torpid, no want of balance in the general excitement. To preserve the system in this healthy condition, fumigations and the smelling of volatile substances were found to be of no service. Those persons *in health*, who, in order to avoid an attack of this epidemic, commenced the use of highly stimulating substances, such as ardent spirits, to which they had not previously been *accustomed*, soon brought on themselves the disease. I knew of several persons, who, although in good health, commenced taking medicine to prevent it. These were among the first to be attacked. Those who escaped, or had it but mildly, never disturbed, when in

perfect health, the equilibrium of excitement of the various organs, by stimulants: nor did they interrupt the healthy processes already going on, by the use of medicine, as long as those processes continued to be duly performed. The Frenchman, the Spaniard, and the native, who escaped, did not adopt the diet and customs of either the Frenchman, the Spaniard, or the native; but each continued to follow his own diet and customs. Those who escaped regulated their diet and drinks, not by any fixed rule or standard, but by their former habits; and if they deviated from those habits, they approximated to simplicity and abstemiousness, not carried to the extent of debility; for if the stomach were not sufficiently excited by food and drinks, the same effect was produced as if it had been too highly stimulated, viz. a derangement of action between it and the organs with which it is associated. Those who had been temperate and abstemious, continued to be temperate and abstemious still, even more so than usual. I knew two persons who had for several years kept up a strong excitement by ardent spirits. During the prevalence of the epidemic they continued it; and as it had now become habitual, it was absolutely necessary for a due performance of the functions of the various organs. They entirely escaped the disease. All who had not previously been habitual drunkards, that attempted to imitate their example, became sick and died. Ardent spirits kept up the equilibrium of action in the systems of the former, but destroyed that equilibrium in the latter. Finally, those who escaped were such as preserved this equilibrium, by accommodating their diet, drinks, sleep, and exercise to the existing state of the system, and to their former habits, by avoiding all exciting causes, as heat, cold, fatigue, &c. which are but other names for those causes that disturb this equality of action; and by restoring the system, when it became the least deranged, to its accustomed balance of action, by the remedies hereafter to be mentioned. Numerous other facts might be brought to show, that the *great secret* of preventing yellow fever, consists in preserving the equilibrium of the system.

I come, in the second place, to take a view of the remedies used by those who were often indisposed, that remained in the city during the epidemic, and who either escaped entirely, or had but a mild attack. There were some persons who, during the prevalence of the epidemic, were in the habit of getting bled, who escaped: these were the plethoric; they were bled whenever they felt a fulness and uneasiness about the head, or a disposition to fever. Doctor Gustine, with some others that

might be mentioned, who were often indisposed, and yet escaped the disease entirely, used no other remedy but an occasional aperient. Their indisposition proceeded from a torpid state of the bowels, to which they were often subject, even when breathing a pure atmosphere, as their temperaments were bilious. To those who complained, during the course of the epidemic, of a bitter or mawkish taste in the mouth, sickness at the stomach, achings in the bones, soreness of the flesh; who could get but little sleep, which was disturbed by frightful dreams, I prescribed emetics, and I had some of the most convincing proofs of their utility, both in warding off the yellow fever entirely, and in rendering its attack milder. A gentleman applied to me during the epidemic to prescribe for him —he complained of pain in his back, with a restlessness and anxiety: his urine, for several days, had been small in quantity. A free use of diluent drinks and diuretic medicines restored the kidneys to their ordinary secretory action, removed all symptoms of indisposition, and enabled him to avoid entirely an attack of the epidemic.

From these facts it is plain, that whenever the system is threatened with an attack of a violent disease, the physician should endeavour to ascertain in what way the *threat* is made, and apply his remedies accordingly. He should recollect that the poisonous atmosphere of yellow fever may long be breathed with impunity, while a due balance of action among the various organs is preserved, but not so when it is *broken;* that living in such an atmosphere tends to break that balance —the smallest disturbance of which is announced by symptoms which often point directly to the organ in which the disturbance has commenced, and which, in many cases, may, by timely and appropriate measures, be restored to its healthy functions. Hence, when an organ could not perform its accustomed office from excess of fluids—when the digestive process was deranged from torpor of the stomach or any of the collateral organs of digestion, blood-letting should be used to the extent of removing the plethora which interrupts their accustomed office, and stimulants, emetics, or purgatives, to rouse them from their torpor; diuretics if the kidneys, and diaphoretics if the skin, be torpid. By these means the inroads to the disease, which were opened by the plethoric state of the system, by the suspension of the digestive process, by the torpor of the skin or the kidneys, are closed.

Doctor H. Tooley and his family were preserved by the following means. They have always been temperate; their food consisting of wholesome and digestible materials, and of

water as their only beverage. The hours of meals, of retiring to rest, and of rising in the morning, are announced by the clock. During the epidemic they continued the same diet and drinks. No medicines, stimulants, bitters, &c. were given to any member of the family while the usual health continued; they were, however, attentively watched, and the slightest indisposition was met by appropriate remedies. Four out of five escaped the disease entirely, and none died. To the lasting honour of this family it should be remembered, that their daily employment was waiting on the sick poor of the city, without fee or reward; in entering into the houses of the forsaken, and supplying them with food and medicine; in mingling with scenes of distress, and in assuaging the pangs of unavoidable death. Although thus exposed, the servants in attending on the sick, the children in carrying them drinks and provisions, and the head of the family in daily visiting them, they were preserved to attend on those who had taken the unnecessary precautions of fumigating their dwellings, smelling volatile substances, and guarding against swallowing their saliva.

*Treatment.*

Experience has long since proved that the same remedies produce very different effects in different diseases, and in different stages of the same disease. Stimulants, emetics, cathartics, &c., are only relative terms; for in many conditions of the system, stimulants impart no strength, tartar emetic will not puke, nor will calomel purge or salivate. I shall first point out the *state* of the system in which they were used, the *effect* they produced, and the *manner* in which they *influenced* the disease. In all important cases, I was in the habit of noting the state of the system when a remedy was given, and on my next visit, noting also the changes produced in the disease. When a remedy, in any particular state of the system, was found to be pernicious or useless, it was not concluded to be pernicious or useless in all states of the system, but only under those particular circumstances in which it had been proved to be so. When the disease terminated fatally, I looked back on the situation of the patient when the remedies had been used, their effects on the disease, and immediately proceeded to make *post mortem* examinations, and to note down every morbid appearance. Having the charge of Natchez hospital from the sixth of September until the epidemic terminated in November, I had an excellent field for observation. Patients of every description were ad-

mitted, and in every stage of the disease. Some who had been under the treatment of other physicians, and others who had taken no medicine. This hospital, with my private practice in the city, in which I resided during the epidemic, and the experience of the disease in my own person, in the present, and also in a former epidemic, are the sources from which the following observations have been drawn. I have seen patients recover from yellow fever under very different, and apparently, opposite modes of treatment. The narrow views which are too often formed of the action of medicines, and of the laws which regulate the system, aided by the dogmas of the schools, have, until within a few years past, shackled the science of medicine, and hindered its progress. Facts are yet too often overlooked or disregarded, when they do not support some slender built theory, or favourite hypothesis.

In the first stage of yellow fever, or in that which consists of an ataxic or crippled reaction, when the blood is unequally determined, the heat unequally diffused, sensation impaired, and secretion suspended, I found no other remedy, or combination of remedies, which produced such decided effects as tartar emetic in full doses. It, however, seemed sometimes inadequate to make a sufficient impression on the torpid system. When given in this stage of the disease, its effects were not *so soon* apparent as in the healthy state of the system, or in less violent diseases. Very often, it would be an *hour* or *more* after a full dose had been taken, before the system appeared to feel it. At length that peculiar sensation of heat and cold at the same time, would somewhat yield to a sensation of heat only; the temperature of the skin would become more uniform, and as the excitement was brought out, great distress would ensue, and the system appeared to arouse from its torpor, and to regain in some measure, its organic sensibility. Some one or more of the great organs of secretion now took on a secretory action. The nausea, the retching and anxiety, soon gave way to full vomiting, first of phlegm, and then of bile. This, to a spectator, was an alarming period in the disease, and most distressing to the patient. The powers of life would sometimes appear as if they were about to give way under it, but happily it was only in appearance. The vomiting at length subsided, and the patient enjoyed a little respite from his sufferings, and bathed in a perspiration, he would fall into a slumber of short duration; for these were only the first effects which tartar emetic produced on the system. Soon, reaction took place,

and the disease passed into the second stage; but the reaction was general, and lost its ataxic or broken character; it was accompanied with a hot skin, violent pain, and a full, strong, tense pulse. The patient would now complain of excessive misery. I delighted to see the disease come out thus openly, and show itself by fever and pain, for although the patient might fancy himself worse, yet he was far removed from the danger which attended on the ataxic fever from which his system had just emerged, and only required a bold use of the lancet, and other remedies hereafter to be mentioned, to restore him to health. But it was not always that tartar emetic when given in the first stage would produce vomiting. In those cases in the first stage, in which the skin was cold, and even when the reaction was ataxic and scarcely perceptible, the organs as if palsied, secretion entirely suspended or strangely vitiated, the stomach irritable, and little or no pain complained of, tartar emetic in full doses might be given without producing vomiting. Strange as it may appear, tartar emetic in such cases was a most powerful stimulus; it brought out the excitement, heated the skin, raised the pulse, allayed the irritability of the stomach, restored sensibility to the organs, and finally awakened one or more of them, the kidneys, skin, &c., to active secretion. To have this effect, it should be given in doses of from three to ten grains every one, two, or three hours, dissolved in a small quantity of water, or what is better, as I have since learned, in similar states of the system, in pills. When secretion has been brought about by the remedy used in this way, and the excitement developed, it should not at once, but gradually be discontinued, by giving smaller portions at longer intervals. Should a vomiting ensue before the skin has its heat and sensibility somewhat restored, bile will rarely be evacuated; in this event, another dose of the medicine should be immediately given, and repeated whenever great nausea ensues. I have rarely seen this practice fail, in such states of the system, to check the vomiting and heat the skin, when mustard and blisters had failed. It will be remembered, that those which are denominated cold cases, are the most hopeless. I have used the hot bath, frictions, sinapisms, blisters, besides various internal stimulants to bring on reaction, but the combined influence of all these remedies has never had the same beneficial effect as tartar emetic alone. But in some cases of this kind, particularly in hard drinkers, it fails to produce secretion, and to develop excitement. It may be imagined by men in their closets, that these are cases of congestion only,

which congestion could readily be removed by small and repeated bleedings combined with internal and external stimulants. If the malignant nature of these cases depend entirely on congestion, it is a very different congestion from that which takes place in many other diseases. In the latter, I have often succeeded in removing the congestion, by blood-letting, combined with external and internal stimulants; but in the cold cases of yellow fever, *never*. In such cases, if blood be taken away, even should the patient not immediately sink under it, so far from reaction being produced, the blood vessels lose more and more of their contractile power; stimulants impart no strength; the warm bath and rubefacients produce no more effect on the skin than if applied to so much leather; the organs become more paralyzed; the sympathies more deranged; and the whole system soon appears as if it were divided into different parts, one not depending on another, and each having the principle of life diminished in it. Instead then, of using blood-letting in such cases, to remove congestion, I used tartar emetic to produce secretion, and to develop the excitement. Although tartar emetic was sometimes inadequate to produce these desirable effects in the cold cases, it scarcely ever failed to be eminently serviceable in the first stage of cases of a less malignant nature. The earlier it was given in the first stage of the disease, the better. When given freely, so as to produce secretion in the liver, kidneys, and skin, a general and equable reaction soon succeeded. It shortened the duration of the first stage, or that of ataxic reaction, and thereby converted a highly *malignant*, into a *mild* case of yellow fever. For in the mild cases, when left to nature, the first stage continues but a short time, and the disease soon passes into the second, or that of general reaction. These are the cases which bear bleeding and purging so well, and in which emetics are of no service, (unless given before the general reaction has taken place.) The good effects of emetics appear to depend on their ultimately producing a general and equable excitement throughout the system. In the more malignant forms of yellow fever, the stage of ataxic reaction, when left to nature, continues a longer time; and should the second stage, or stage of general excitement ever occur, its duration is so limited, that a sufficient time is not given to subdue the disease, before it passes into the third, and last stage. Tartar emetic then, given in the first stage, shortens its duration, and places the system in a similar state to what we find it in the milder forms of the disease. And in propor-

tion as the ataxic stage is shortened, so is the stage of general excitement prolonged, and the chances of the patient's recovery greatly increased.

Dr. Armstrong was not ignorant of the beneficial effects of tartar emetic in bringing about a general reaction. In his essay on measles, he says; "Vomiting seems to be among the most striking means by which nature brings about reaction. An antimonial emetic may be fairly ranked among the most efficacious remedies in pulmonic congestions." "We have much to learn respecting the use and the power of vomiting in changing the incipient disorders of the circulation in the first stage of fever." "I am fully persuaded that they (emetics) will be found both applicable and beneficial in the first attack of many acute affections, attended with venous congestion." "But what the precise conditions are under which emetics ought to be exhibited, and what those under which they ought to be avoided, I cannot, for the present, pretend to determine; and at the same time, I think, that a cautious and well conducted inquiry into their influence in the beginning of congestive diseases, is a desideratum in the practice of physic." The above remarks of Dr. Armstrong, I did not meet with until the termination of the epidemic. I slowly learned, from experience, the states of the system to which tartar emetic was best suited. On looking over my notes I perceived, that when it had been given in the first stage, such patients not only bore bleeding better, and could be purged more easily than those to whom it had not been given, but whether they lived or died, the symptoms of the second stage, or that of reaction, continued longer than when tartar emetic had been omitted. For in those cases in which it had not been given, should the stage of reaction ever occur, it continued but a short time, frequently not more than an hour—then external reaction, like the blaze of recently ignited coals, would subside, not from the fire having been extinguished, but from the heat which supported it, having become greater. My notes likewise showed me, that tartar emetic, however well adapted to some states of the system, was not so to every one in yellow fever. For when it had been given in the stage of general reaction, its effects were extremely equivocal, and in some cases injurious; and in the third stage it appeared to accelerate the fatal black vomiting. I thus found that I had pushed a favourite remedy too far, by using it improperly; and at the same time learned the particular states of the system to which it was peculiarly adapted, viz: during the first stage of the disease,

antecedently to the development of a general reaction. Tartar emetic used in this stage, restored sensibility to the torpid organs, produced secretion, and destroyed the ataxic character of the disease, by establishing a general and equable excitement—or, in other words, converted an irregular, and intractable condition of the system, into an open, plain and manageable case of fever. When I first treated yellow fever, in its first stage, by tartar emetic, and witnessed the violent reaction that shortly succeeded its use, and heard the agonizing shrieks of my patients from the pain that attended the increased sensibility and universal excitement that succeeded it, for a moment I thought I had done wrong; and would have ceased to use it, had I not found that this was the only state of the system in which the lancet could fearlessly and successfully be used. Even when the lancet was not used, the general reaction induced by tartar emetic, was nothing like so fatal, as when an ataxic state cloaked the violence of the disease. To illustrate this remark, Dr. M'Pheeters, lately from Missouri, was taken ill at the most perilous and alarming period of the epidemic. He found himself alone, and rendered helpless by a violent disease that killed generally in three days. Being a man of great strength and energy of mind, he resolved to make use of efficient measures, and accordingly mixed up sixty grains of tartar emetic, and took a sixth part of it at once. It produced copious secretion; and was soon followed by a vehement excitement of the whole system. Having no means to subdue the reaction thus brought about, it run its course. But every part being excited, the system was enabled to bear up against a power that otherwise would have caused it to succumb. Nine or ten days afterwards, I visited him. Reaction had nearly run itself down. He looked more like a patient in the advanced stage of a common synocha, than one in yellow fever. Had not the ataxic reaction with which the disease commenced have been removed, he would not, most probably, have survived. Mr. Kees, during the epidemic, with eight in family, fled from the city. I had given him directions, that if any of his family took the disease, to puke them copiously and powerfully by tartar emetic, immediately when they began to complain; and afterwards, when the *fever came out*, to bleed to the relief of the symptoms, and then use purgatives. Every member of the family took the yellow fever—some on their way out. The directions were followed, and not a death happened among them; and

this too, in an epidemic, that killed more than two out of three that were treated on the mercurial plan.

### *Of Blood-letting.*

If blood-letting were resorted to before the development of general reaction, the reaction, which had yet only partially developed itself, abated; the heat which had begun to spread itself over the surface, disappeared; and the pain would subside; and this too, before the quantity of blood taken away was in any degree considerable. Medicines did not operate, and the disease at once passed into the last stage. During the ataxic reaction, in vain may we be told to bleed to the relief of the symptoms; for they grow worse while the blood is flowing, and continue to become more alarming, and that in proportion to the quantity of blood taken away.

Blood-letting, in this stage of the disease, at once *quelled* the efforts which the system was making to establish a general reaction. When I first witnessed these effects produced by the loss of a small quantity of blood, in the first stage of the disease, I waited with confidence to see the system react, as I had been in the habit of doing in other diseases—but I waited in vain. The disease pursued a similar course to the cold cases—excitement never took place. When a feeble and broken reaction has taken place, to attack it by the lancet, is like attacking the first phalanx of an enemy, when he attempts to come out of his intrenchments, instead of waiting until the main body has appeared in the open field. But in the second stage, in which the heat of the whole surface is excessively increased, the pulse full and strong, the patient lying naked, and calling on the attendants to fan him, and to give him cold water, we may bleed *fearlessly* and successfully. A small quantity of blood will not subdue this general excitement, as it would the partial or ataxic reaction; but this state of the system required, and could bear it to be taken away by quarts. The changes which copious blood-letting produced on the system in this stage, were a reduction of the temperature; an alleviation of severe pain; a susceptibility to the impression of medicines, and a soft state of the skin and pulse. No secretion, or at least no healthy secretion, was produced by blood-letting, if used in the ataxic reaction of the first stage: but secretions of a proper character followed the use of the lancet in that of general excitement. The effects produced on the system by blood-letting in the reacting, so far from hastening the dis-

ease into the last stage and bringing on fatal symptoms, prevented it from passing into that state, and robbed it of all its violence and danger. I will now give a case in which blood-letting was followed by alarming consequences, from its being used a little too soon in the disease, *i. e.* before the second or reacting stage had fully developed itself, yet so near the stage of general reaction, as to prevent blood-letting from proving fatal. Mr. M'Cauley, a printer, was attacked with yellow fever on the 20th of August. The disease appeared at once to overpower the system. It seemed as if the viscera had absorbed nearly the whole of the circulating fluids, as the skin was cold and almost insensible; the pulse small, slow, and weak, and no secretion appeared to be taking place from any organ whatever. He complained of no pain, yet was restless and uneasy, and seemed to be oppressed in his breathing, as if a heavy body were lying across him. In this situation, early in the morning of the 21st, about twelve hours after his attack, a full dose of tartar emetic was given him. In two hours afterwards he began to complain of pain in his head and back—his skin became somewhat warm, particularly about the head and breast—frequent efforts were now made to vomit, but nothing but the drinks was evacuated—a clammy sweat bedewed his forehead and breast, which soon dried up and again appeared. He continued in this state until noon, when full vomiting took place. At two o'clock, the vomiting ceased, and the irritability of the stomach was so much allayed, that it retained several doses of calomel and castor oil, senna tea, &c., which were given at regular intervals until seven o'clock, and although assisted by injections, had not operated. He now complained of excruciating pain. His skin, except his extremities, was hot to the touch; his pulse at the wrist tense; but not full and strong. The ataxic reaction was verging on to general reaction; but the latter had not as yet fully developed itself. Hoping that it would be the means of making the medicine operate, I opened a vein in the arm—as I never feared blood-letting in such states of the system, as alone it would either produce secretion, or cause medicines to do it.

Being determined to bleed him until some sensible effect was produced, I took away upwards of sixty ounces of black, dissolved blood, before the system seemed to feel its loss. The blood was stopped in consequence of a slight sickness at the stomach. The patient answered several questions after I had tied up his arm. I went into an adjoining room,

and, in about five minutes, was told the patient was dying. I took hold of his arm, but found no pulse. His face was sprinkled with water; washed with vinegar, and constant frictions applied to the skin during fifteen minutes, yet without effect. Some laudanum was now procured and one hundred and twenty drops poured down his throat. After waiting fifteen minutes longer for a boy to return from the apothecaries, half an ounce of spirit of hartshorn was given, which he seemed not to feel. A stimulating injection was administered; his face was washed with the aqua ammonia, and the frictions were kept up. All of his attendants, excepting one, left him and reported him dead. I thought myself that animation had been suspended too long, in his present condition, to be restored. After remaining in this situation for near an hour, signs of life again appeared. After several sighs, respiration took place, and a tremulous pulse was felt. But from the slightest exertion on the part of the patient, syncope would again ensue, and continue for several minutes. I ordered the spirits of turpentine to be freely given, stimulating injections to be used, and sinapisms to be applied to the extremities.

On the morning of the 22d I found that no perceptible secretion had taken place—he had neither sweated, urinated, or had an evacuation from his bowels. Suspecting that there might be a want of power in the bladder to evacuate the urine, I examined, but found no urine in the bladder. I continued to give the turpentine in drachm doses every hour through the day. His bowels, on the evening of the 22d, acted, and shortly afterwards he discharged a little very turbid urine. On the morning of the 23d, the great organs of secretion were all awakened, and the patient, though much exhausted, was in a few days restored to perfect health. Had the reaction in this case been general, and not of the ataxic kind, I judge from what I have seen in other cases, that no alarming effects would have followed the use of the lancet; but had not the ataxic approached so nearly to general reaction, I am fully persuaded that the patient would not have borne half the quantity of blood to have been taken away, without producing death. I have dwelt the longer on this case, as the length of time which elapsed before the emetic operated; the changes that took place in the system in consequence of it; the great quantity of blood that was taken away before the system felt its loss; the alarming effects that followed it, and the length of time before the torpid organs assumed a secretory action, are well calculated

to show the character of the most malignant form of yellow fever, and the manner in which they are influenced by remedial agents. I will now give one case, out of many, to show the effects of blood-letting after the excitement is fully evolved. Mr. Welch, a baker, was attacked with yellow fever on the 15th of September. On my visiting him on the morning of the 16th, I found him wrapped in several blankets, and complaining both of heat and cold. I ordered five grains of tartar emetic every hour, till he puked copiously. In the evening I found him lying naked on the floor; as the bed was too warm; he was raving like a madman from the excruciating pain in his head and back; he begged the attendants to kill him at once and put him out of his misery. His pulse was full and strong, and the whole surface of the body remarkably hot. I took away, at one bleeding, six pints of blood, before the symptoms were relieved. He continued very sick at his stomach only for half an hour, but did not faint. Calomel and castor oil, then given, operated freely on his bowels in six hours afterwards, and he speedily recovered.

In my own case, I lost four pounds of blood at one time. It was taken away before general reaction had as fully developed itself as I could have wished. A most distressing feeling of exhaustion ensued, and continued for an hour or two. No healthy secretion took place for twenty-four hours afterwards, at the end of which time, by a judicious course of treatment pursued by my physician and friend, Dr. Denny, the skin, the liver, the kidneys, and salivary glands, all took on a secretory action—and in less than a week from my attack, I was able to leave my room, and in two or three days more, resumed my practice. It was not until I had seen some of the most injurious effects from the loss of the smallest quantity of blood in the ataxic stage of yellow fever, that I could be convinced of the propriety of waiting until the excitement had fully developed itself, before recourse should be had to the lancet.

In a very fatal epidemic which prevailed on Tombigby river, in Monroe county, the year before, after having administered a purgative, I was in the habit of bleeding from the temporal artery, in the ataxic state of the system, with the most evident advantage. I tried this practice in the present epidemic, but found it to fail entirely. In the Monroe epidemic the blood-letting enabled the medicine before given to produce *secretion*, but in the Natchez disease, it *paralized* at once the secretory organs. I will finish what I have to

say on blood-letting, by bringing forward another case. Mr. ———, in the ataxic fever of the first stage of his disease, was bled from the arm to the amount of about a teacupfull. The heat of the skin disappeared and all pain subsided; he became so weak as to be unable to help himself out of bed. Sometime after this, his arm bled in the night, and from the appearances of the blood about the bed and on the floor, he must have lost two or three quarts. In the morning he was up and parading the room, and striking with a large stick against the wall. I knew by his accession of strength, his staring eye, and black vomit, that the disease had passed into the last stage. In a few hours he was a corpse. I have seen this artificial accession of strength follow copious watery evacuations from the bowels.

*Purgatives.*

If purgatives were given immediately on the accession of the first stage, they sometimes produced secretion, which was followed by a reaction more or less general. But it was only in the milder forms of the disease, in which the organic sensibility was not greatly impaired by the first shock of the disease, that purgatives produced secretion. Drastic purgatives, in almost any state of the system, would, after so long a time, force away watery stools, which, like similar secretions in cholera morbus, soon exhausted the system, without producing any beneficial effects whatever, either immediately or remotely. The uncertainty of purgatives in producing secretion of the proper kind, even in the milder forms of the disease, and the tardiness with which general reaction succeeded such secretion, induced me, in the first stage of the disease, to substitute in their stead tartar emetic, which was attended with the happy effects already mentioned. The states of the system in which I used purgatives, were chiefly those in which blood-letting was proper. In conjunction with venesection, to subdue the excitement of the second stage, purgatives were found to be valuable remedies. In those cases in which general reaction was slow in developing itself, (after tartar emetic had been used to a sufficient extent,) purgatives were sometimes given before recourse was had to the lancet —but in all cases in which general excitement quickly succeeded the use of tartar emetic, blood-letting preceded purgatives. When the excitement had once been fully developed, whether it were brought about by the system alone or by the aid of tartar emetic, various and apparently opposite modes of treatment will sometimes arrest its progress and restore

health. In a Mr. Andrews, in whom reaction had been produced by tartar emetic, the excitement was subdued by keeping up an artificial bilious diarrhœa by purgatives, unassisted by blood-letting. Some cases required purgatives more than others. It was not necessary to bleed only, but to produce secretion in the skin, the liver, and the kidneys. Sometimes secretion in one or more of these organs ensued from blood-letting only. If bilious dejections succeeded the use of the lancet, and the kidneys still refused to secrete urine, diuretics, not purgatives, were indicated. For, in such circumstances, the effects produced on the system by purgatives were an increase of the torpor of the kidneys, the disease was prolonged and rendered more difficult to manage, and more dangerous in its progress. If all the organs still continued torpid after blood-letting, the practitioner should exercise his judgment in deciding whether he had better attempt to produce secretion in the liver by purgatives, in the kidneys by diuretics, in the skin by sudorifics, or in the glandular system by mercury. For, to give purgatives, diuretics, sudorifics and mercury at the same time to produce secretion in all the organs, their operation would counteract each other, and "we would obtain nothing by asking of nature too much." Although it is no doubt improper to administer at the same time various kinds of medicines, yet any remedy, which possessed more than one property, was often found more beneficial than such as possessed one only. Thus, if mercurial cathartics failed to cause secretion of the proper kind from the liver, they sometimes produced it in the salivary glands; and spirits of turpentine acted either on the kidneys or bowels. Whenever purgatives produced a secretion of bile—the fever, pain, oppression, thirst, and restlessness abated; and secretion in the other organs shortly succeeded that of the liver, and the disease soon yielded. But when purgative medicines were followed by copious bloody, watery discharges, or by any highly vitiated secretion, the effects which they produced on the system were to exhaust its energies, to produce spasms of the muscles, to increase the flatulency of the stomach, and to cut asunder the thread which ties together in sympathetic union the various organs of the system, and the disease passed into the third and fatal stage. Highly drastic purgatives, in large doses, are generally followed by secretions of some kind. As long as they caused secretion of the former sort, like other purgatives, their effects were beneficial; but when they produced, as they too often did, those of the latter kind, their effects were exceedingly pernicious. When the system was placed

in a proper state for the exhibition of purgatives, those of the milder class would be followed by bilious discharges, which were beneficial; but when it was not in this state, drastic purgatives would produce serous, mucous, or sanguineo-serous discharges, which were extremely injurious. As the milder cathartics were found to have all the *good* of the drastic, and none of their *evil* effects, I preferred mild to drastic purgatives. Late in the epidemic I obtained some of the croton oil. From the trials I gave it I am induced to believe that it will be found to be a valuable remedy in many cases of yellow fever. Every time it was used copious bilious dejections ensued. It was, however, only resorted to in those states of the system in which I would have used other purgatives. As this medicine is so pleasant to take, and can be retained on the stomach in cases in which almost any other purgative would be rejected, it promises to be of great utility in many forms of disease.

*Mercury.*

Given in the first stage of the disease, mercurial preparations, in by far the majority of cases, produced no evident effect on the system, and consequently none on the disease. Sometimes, however, even in this stage, they produced ptyalism, yet such ptyalism had little or no effect in arresting its progress. I have seen as many patients die whose mouths became sore early by one or two doses of calomel, as I ever saw recover. If mercurial preparations were had recourse to in the second stage, after the system was reduced by the lancet or by any other means, they often brought on ptyalism. Such ptyalism was attended with a soft state of the skin and pulse, with a free secretion of bile and urine, and with a return of the organic sensibility of the whole system. With such ptyalism I never saw a patient die, either in yellow or bilious fever. But if the reaction of the second stage be not reduced by the lancet or other remedies, and has not had time to run itself down, mercury in such a state of the system, especially in the form of calomel with opium, often produces the following effects: a blackness of the gums, succeeded by a sloughing that lays bare the alveolar process at different points, and which is accompanied with a perpetual oozing of blood, to the amount of a quart or more in twenty-four hours; or the gums and salivary glands become greatly swollen, ptyalism ensues for a few hours, then hemorrhage, and then both the secretion of saliva and the flow of blood subside, and a burning heat, an alkaline breath, and dryness

of the mouth and fauces take place, until either the hemorrhage or ptyalism return. When the mouth is thus affected from mercury, the skin is dry, the pulse tense, slow or intermitting; the urine red and scanty; the stools, if any, contain no bile; the organic sensibility of the system is far from being restored; the blood is unequally distributed, as may be seen from the leaping of the carotid and temporal arteries, from the abdominal pulsation, and from the unequal evolution of heat. The influence which these effects of mercury produce on the disease, is to prolong, but not to cure it. When I took charge of the Natchez hospital, I found in it about forty patients with yellow fever, and others were daily coming in; ten or twelve had been salivated by the liberal use of calomel, calomel and opium, and inunctions with mercurial ointment. Some of them had been under the influence of mercury for more than two weeks. They were very much reduced in flesh and strength, and unable to leave their beds. The skin had assumed a deep bright-yellow hue, was dry, or only partially moist. Neither the kidneys nor the liver seemed to have taken on a proper secretory action. The tongue was much furred, and the breath had a peculiar alkaline odour. The gums were corroded away, sloughed off, or were so swollen as nearly to bury the teeth. Sometimes saliva mixed with blood would flow from the mouth, sometimes dissolved blood only, and then neither the one nor the other. I tried in vain to save these patients by stimulants, tonics, astringent and detergent gargles, laxatives, blistering, &c.; they continued to drop off about the twentieth day from the attack, apparently from exhaustion produced by the stillicidium of blood from the gums. All at length died but two. I gave each of these, notwithstanding their debilitated condition, an emetic. They threw up a considerable quantity of vitiated matter. Their skins became moist, the alvine evacuations bilious, and the kidneys secreted urine freely. The hemorrhage of the gums subsided, the appetite returned, and in a few weeks they left the hospital; but were a long while in recovering their strength. After this, whenever a patient was admitted similarly affected by mercury, I always gave an emetic, and was happy to see the best consequences result from its use. It was, however, only part of the patients whom I found in the hospital, that had been salivated for any length of time. Some had been recently salivated; some of these required no medicine; the skin, liver, and kidneys, together with the salivary glands, were awakened to a due performance of their secretory offices; others required

brisk purgatives, before the liver had its secretory function restored.

There is a state of the system which, however, occurs more often in bilious than in yellow fever, in which I have found the specific effects of mercury to be particularly serviceable. After reaction is subdued; after the skin, kidneys, and liver have been excited into a secretory action—owing to some organ having, from some cause or other, sustained a great shock, a torpor will again take place in one or more of these organs, that produces great irritation in the system, preventing sleep, destroying the appetite, producing fever, and thereby exhausting, more and more, the already too much exhausted patient. If the torpid organ be excited into action by any other remedy but mercury, as soon as it ceases to feel the impression of the remedy, it ceases to secrete; here mercury, by keeping up an impression not *transient*, as the most of other medicines, but permanent, will, by enabling the diseased organ to regain its powers, restore the patient to health. In the above state of the system, and in many others in which the specific effects of mercury are indicated, I had been taught to use calomel in small and frequently repeated doses; but experience has convinced me, that there is scarcely any state of the system requiring the specific action of mercury, in which calomel in large doses is not the best means to effect it. Scruple doses of this medicine will not only induce the specific effects of mercury sooner, but will be followed by fewer disappointments, and less inconvenience and danger, than when smaller doses of that medicine, or any other form of mercury, have been resorted to.

### *Diuretics.*

As a copious secretion of urine was a favourable symptom, and a suppression of it alarming and often fatal, diuretics were remedies, in many cases, of great importance. When purgatives would not produce a secretion of bile, instead of trying by reiterated doses of these medicines, more especially of a drastic nature, to force away alvine discharges, which in such circumstances, would generally be of a serous kind, that tended only to weaken the patient, I endeavoured to excite the kidneys to secretion by diuretics.

I have often had the pleasure to find that the *urinary* secretion produced by them, was of equal advantage in arresting the progress of the disease, as the *biliary*, by purgatives. Soon after the secretion of urine was established, the skin and liver would both generally begin to yield their peculiar

secretions, and the disease would no longer be able to resist the efforts of these allied organs.

*Diaphoretics.*

When neither the liver or kidneys could be excited into action, diaphoretics were sometimes serviceable. But the great irritability of the stomach, the distaste to all medicines, the want of nurses, and the rapid march of most cases, prevented me from incumbering my practice by such feeble medicines, in the treatment of a disease, which seemed to require only a few simple, efficient, and well-timed remedies.

*Epispastics.*

In every stage of the disease, I have used blisters, applied to the head, over the stomach and bowels, to the extremities, and down the spine. The benefit, however, which I had reason to expect, from my experience with them, in bilious fevers and other diseases, never followed their use. Sinapisms to the extremities to assist tartar emetic and the hot bath, to produce reaction in the cold cases; or after reaction had been reduced, to stimulate the prostrated patient, were far more serviceable than blisters. The former acted much more quickly, and produced greater pain than the latter.

*Stimulants.*

How the bark and wine in large doses would have answered in the first stage of this disease, to change the ataxic reaction of that stage into a general reaction, I cannot from experience determine.

The Spanish practice in the Andalusian fever, consisted in large and repeated doses of bark, given immediately when the patient began to complain. This practice, we are told by Dr. Johnson, was attended with extraordinary success. I very much suspect that the good effects of bark, in that fever, principally depended on its transforming the broken excitement, with which the disease commenced, to a general reaction, or open case of fever. I lost one patient who drank a large draught of ardent spirits, with pepper in it, immediately after the attack.

The fever became developed, but great gastric distress attended throughout its course. Antopsic appearances proved the existence of unusually high inflammation in the stomach.

It is probable from this case, that such stimulants as ardent spirits, although they may develop the fever, may at the same time produce a dangerous visceral inflammation. Whether or not, the bark would have the same effect, I cannot tell. Tartar emetic, however, not only developed the fever, but cured any visceral irritation it may have produced, by the copious secretory action that succeeded.

### *Of the Bath.*

The cold bath, if used in that state of the system, which I have called ataxic reaction, was evidently injurious. I cannot better describe its effects, than by the following case. Mrs. Rice, in the first stage, used ablutions of cold water and vinegar. The efforts made by the system, towards general reaction, became immediately subdued—and to use her own language, "the cold water drove the fever in upon her heart and stomach." Great coldness and shivering, with internal heat and oppression succeeded its use. Reaction never took place, and the disease passed at once into the last stage; and when I was called to see her, fatal symptoms had appeared. Had an emetic, instead of the cold ablutions, have been tried, it is probable that reaction would have been general;—would have borne blood-letting, and have been attended with a different result. The only condition of the system, in which cold ablutions or affusions were advantageous, was when the surface was uniformly and preternaturally hot. In this epidemic, I never found any difficulty in reducing the reaction by the lancet, and other remedies—consequently I seldom ever found it necessary to call in the aid of cold affusions.

Cold affusions would seem to be prejudicial in all acute diseases in which a general and equable excitement was not evolved. Although, during this general excitement, I can say nothing in their favor, in the disease under consideration, yet I do not wish *to generalize* such excitement, with that which occurs in many other fevers. In the yellow fever of Natchez, the heat of the surface could be, in a great many cases, too readily and easily reduced, the disease still remaining, after that reduction, firmly fixed in the viscera. But in violent bilious fevers, to reduce the reaction of the heart and arteries, and the excessive heat of the surface, blood-letting is often inadequate, and here cold affusions are not only useful, but almost indispensable. For the excitement is sometimes so pertinacious, that blood-letting, after it has been used to a certain extent, if still persisted in, so

far from diminishing the reaction and the heat of the surface, adds strength to the one and fuel to the other. This state of the system, so well suited to the use of cold ablutions and affusions, never occurred in the Natchez epidemic. Cold affusions are generally said to be contra-indicated by great visceral derangement. I very much suspect that it is in consequence of these derangements being, in the most of cases, attended with a partial or broken reaction.

In the yellow fever under review, when reaction was reduced, or on the wane; if secretion did not take place, the *tepid* bath, apparently by removing the remains of morbid heat, and by restoring the natural sensibility of the skin, enabled that important organ to take on a proper secretory action. But cold water, by carrying off too much heat, reduced the temperature of the skin below that degree which is compatible with natural sensibility, and consequently with healthy secretion. Pleased with the effect of the *tepid* bath, after the use of the lancet in the reacting stage of the disease, I resorted to the same remedy in the ataxic stage. The temperature of the bath was 96°. The patient, as soon as immersed, complained of being disagreeably cold; he was taken out in a shivering fit, and was shortly afterwards immersed in a bath, so hot as to be extremely painful to my own hands, yet he did not in the least complain of it. His skin soon became generally warm, and an emetic which he had previously taken, began now to operate. He was removed from the bath, and in a few hours, a fever so violent ensued, that copious blood-letting was employed to subdue it. The hot bath, whenever it could be procured, was employed in conjunction with emetics, in the cold cases of yellow fever, in order to bring about general reaction. If emetics were not used in conjunction with the bath, the skin, it is true, would be heated, but its heat, like that of any inanimate substance, would soon subside on being removed into a colder medium.

To sum up my experience with this remedy. The cold bath, or cold affusions, are best suited to a pertinacious reaction or irritation, which will not yield to blood-letting; that the tepid bath is most serviceable after blood-letting has left, not a pertinacious reaction or fever of irritation, known by great heat of the skin, quick and irritable pulse, and immoderate thirst, but only a slight degree of morbid heat, which, nevertheless, requires to be carried off before the skin can regain its organic sensibility and take on a proper secretory action; that cold water, so useful in the former

state of the system, would, in the latter, carry off too much heat, and would thereby leave the skin in as unfit a condition to resume its healthy secretory action, in this state of the system, as an excessive morbid heat had rendered it unfit for the same process in that; that the tepid and cold bath, act on the same principle, the one being milder than the other; that the hot bath acts on a different principle from the cold or the tepid, by increasing the heat of the surface and by producing reaction.

*The Morbid Anatomy of Malignant Fever.*

I here beg leave to claim the merit of a *discovery* in the morbid anatomy of yellow fever, which I believe will ultimately be found of the greatest importance, in arriving at the true pathology and treatment of the great family of miasmatic diseases. The first examinations which I made in yellow fever, tended more to confuse than to instruct, more to show the fallacy of my preconceived opinions, than to teach me their pathology. The morbid appearances, so far as my dissections were carried, were by no means uniform. While the stomach was diseased in one case, it was not at all diseased in another; and in a third, was but very slightly affected. I at length determined, if possible, to find out the nature and seat of the malady, not only by examining the abdominal viscera, but the brain, the spinal marrow, and every part of the system. It was then that I *discovered* the diseased state of the *ganglions, the ganglionary nerves, and the inflammation of their investing membranes.* The semilunar ganglions, and cœliac plexus, were, in particular, highly diseased. The membranes immediately investing these ganglions and their plexuses, were of a deep *scarlet*, and in some places, of a *black* colour. This inflammation was not confined to the tissues immediately investing the nerves, but extended to the neighbouring tissues, especially of the semilunar ganglion. The whole of the membranes inclosing the nerves denominated the solar plexus, lying upon the cœliac and superior mesenteric arteries, were black with inflammation. The cellular substance investing the hepatic plexus, as it extends on the hepatic artery and vena portarum, the splenic, the mesenteric and renal plexuses, together with the cardiac and *pulmonary plexuses*, was found to be of a scarlet colour. In a word, the delicate tissues investing the whole of the ganglionic system of nerves, were more or less inflamed. Of twenty subjects, in the yellow fever of Natchez, in 1823, the ganglionic system of nerves were minutely and closely

examined in seventeen; in the other three they were not. In these seventeen subjects, there was not a case in which the investing membranes of the ganglions and their plexuses were not highly inflamed. In all these examinations after death, notes were taken at the time they were made, and many of them were witnessed by Drs. Gustine, Denny, and Tooley. A very good view of the tissues, which were always found inflamed in yellow fever, and which were more highly so than any other tissues in the whole system, could be had by taking out the thoracic and abdominal viscera entire, together with the aorta, and turning their posterior part uppermost. The membranes behind the great vessels of the lungs, enveloping the posterior pulmonary plexus, and the membranes on the anterior part of the aorta, down to its bifurcation, but particularly those about the root of the cœliac artery, investing the semilunar ganglions and their plexuses, were always of a deep scarlet or black colour, which, like the colour produced by indelible ink, defied ablution. The appendix of the diaphragm was also, in the most of cases, very much diseased.

On looking into the subject after the viscera were removed, the whole fleshy substance of the psoas muscles was generally found to have undergone a great change of state, from their healthy condition. In some cases, these muscles were of a black colour, and easily torn. The fleshy part of the iliacus internus, where it arises from the transverse process of the last lumbar vertebræ, and from the hollow of the ileum, was diseased in common with the psoas muscles.

Besides these dissections in the yellow fever of Natchez in 1823, I made an examination of a patient who died of the yellow fever of New Orleans in 1824, and also, a sporadic case of the disease in Natchez, since 1823. Dr. Hunt, of Natchez, assisted me in the examination of the latter. In both these cases, the ganglionic system of nerves was found to be diseased in the same manner as in the seventeen cases in which these nerves were examined in 1823. I have also found somewhat similar morbid appearances of this system, in other diseases arising from atmospheric miasms. But it is not the object of this essay to enter into an investigation, or to describe the morbid appearances of any other disease than yellow fever. If similar parts are found by dissection to be inflamed, in diseases bearing different names, it does not prove that such diseases are the same; but it only proves, that pathological anatomy, although it will teach us *much*, will not teach us *every* thing with regard to the nature of a

disease. The knife may show us that a part is inflamed, but the *nature* or *precise kind* of inflammation, can only be ascertained by correctly observing the aggregate of phenomena which the disease presents. To him who can see nothing useful or practical in the discovery of the diseased state of the ganglions, and the inflammation of their investing membranes, in yellow fever, I would observe, that the discovery of any truth, in any science, cannot fail of ultimately being found of utility. I hope that physicians, hereafter, in their *post mortem* examinations of yellow fever, will look further than the *stomach* for morbid appearances. I would also, in this place, solicit attention to a particular examination of the nerves of organic life in other miasmatic diseases; but as the morbid appearances in this system of nerves in such diseases, are less evident to the senses than in yellow fever; and besides, as many diseases that do not arise from miasmata, bear the same name with those that do, I would recommend that they should first satisfy themselves by dissection in yellow fever, of the existence of the morbid appearances which I have here described, before they extend their examinations to other diseases, *said* to arise from miasmatic exhalations. For in a well marked case of yellow fever which has quickly proved fatal, if examination be made immediately after death, the morbid appearances of the ganglionic system of nerves are so evident, that *the eye of prejudice* cannot fail to see them.

I will now proceed to describe all other morbid appearances which I met with, in the twenty subjects that I examined, who died of the yellow fever of Natchez, in 1823.

Next to the ganglionic system of nerves, the brain and duodenum, the lungs and the liver, were the parts in which the morbid appearances were found to be the least variable. The pia mater and tunica arachnoidea, were in every subject but one, found to be more or less inflamed, throughout their whole extent. The velum interpositum, which attaches the fornix to the thalami nervorum opticorum, and the plexus choroides, were of a deeper scarlet than the pia mater. The lateral ventricles, in the most of cases, contained a quantity of yellow serum. In one case, on piercing the dura mater, more than eight ounces of such serum was found effused on the surface of the brain. The meninges of the brain were, nevertheless, inflamed. A similar effusion was also, in another case, met with, in the cervical portion of the spinal marrow. The dura mater, the falx, the tentorium, and all the processes of this fibrous membrane, were never found inflamed, save

it be, in some cases, small dots or inflamed patches were occasionally seen on this membrane, and gave it the appearance as if fine particles of blood had been sprinkled on it. On dissecting the integuments from the cranium, the pericranium and even the bone itself, exhibited the same appearance as the dura mater. The pia mater was always more inflamed in those who had been delirious, than in those who had not; and was most so about the tuber annulare and basis of the brain. The medulla spinalis, owing to the great difficulty attending its examination, was only completely examined in four cases. Its dura mater covering was not diseased; the tunica arachnoidea and pia mater coverings, were inflamed, though much less so than those membranes within the cranium. The lumbar and sacral portions appeared more diseased than the cervical and dorsal. The delicate tissues investing the nerves going off from the medulla spinalis, where those nerves passed through any inflamed part, were found of a scarlet colour. The same may be said of the cerebral nerves. The duodenum, except in two cases, was always found inflamed. The inflammation was greatest about five inches from the pylorus, and in this place, it was often mortified. The duodenal ligaments, the mesocolon, which ties down the duodenum, and the lamina of that membrane which encloses the pancreas, were always found inflamed.

*The Lungs.*

On opening the thorax, the lungs often presented no unusual appearance on their anterior portion, but the membranes on the posterior portion of the trachea, at its bifurcation, the fine tissue enclosing the right and left branches of the trachea, the pulmonary arteries and veins, were very much inflamed. In some cases, a considerable portion of the lungs somewhat resembled the liver, both in appearance and weight. In the most of cases, on cutting the lungs and squeezing them, a frothy substance, like saliva mixed with blood, was discharged.

*The Liver.*

In most of cases, the liver was somewhat enlarged, and more or less diseased. Generally, it was of a greenish colour; in one or two cases it was black. In every instance the portal vessels were much engorged with dissolved blood. The membranes on the posterior surface of the liver, particularly about the lobus spigelii, the cellular substance investing the hepatic duct, artery, and vena portæ, or Glisson's capsule,

the cellular substance about the vena cava, where it is in contact with the liver, the delicate tissue surrounding the hepatic veins, the lateral ligaments, together with the falciform and coronary, were always more or less inflamed. The gall bladder was sometimes found of a deep black colour, sometimes its coats presented no unusual appearance, but it always, except in one instance, contained a black ropy bile. In the case alluded to, it contained a substance resembling coagulable lymph. I saw nothing remarkable in the ductus cysticus, or ductus choledocus communis. In some cases in the vicinity of the gall bladder, particularly on the great arch of the colon, there were several ounces of a yellow, coagulable lymph, found effused.

The next parts in order, that were found diseased, were the stomach, the kidneys, the spleen, and the heart.

*The Stomach.*

The mucous and peritoneal coats of the stomach were often, but not always, inflamed. The muscular coat was seldom, if ever, diseased. The inflammation of the mucous and peritoneal coats of the stomach, was by no means so violent (generally speaking,) as the same membranes in the duodenum. In some few cases, the mucous membrane of the stomach was violently inflamed throughout its whole extent; but in the majority of cases it was only inflamed on the great curvature of the stomach. The inflammation of the peritoneal covering was confined chiefly to those portions of the stomach called its greater and lesser curvatures. The omenta, particularly the omentum minus, extending from the lesser curvature of the stomach, and the omentum majus, hanging from its great arch, were generally found inflamed. But I saw several cases in which the stomach discovered no marks of disease whatever; cases, wherein violent inflammation existed in the duodenum, brain, and ganglionic system of nerves. Drs. Gustine and Denny were both present at an examination of a case of this kind, and Dr. Tooley assures me, that he has witnessed several such cases in the yellow fever of this place in 1817 and 1819. In some few protracted cases of yellow fever, the coats of the stomach and duodenum showed no signs of inflammation as relates to redness, but were of a pale ash colour. In such cases, the coats of these viscera were very tender, and could be easily torn by the fingers, and would scarcely bear their own weight. In what manner, and at what time, such cases in their progress, lost one of the distinguishing properties of inflammation, I shall not pretend to determine; but, if a morbid

redness of texture, *which is only one mark of disease*, were absent in such cases, there were left other properties or marks, no less evident to the senses than that of colour, which were always abundantly present, to show that disease had preexisted in these organs. There were, however, no such marks in the cases wherein I have pronounced the stomach not diseased; for its coats were firm and strong as usual, and exactly resembled other healthy membranes with which they were compared.

In nearly every case, the nervous membrane of the stomach and duodenum, and indeed of the whole alimentary canal was lined with a muco-purulent matter, from one to four lines thick.

The peculiar matter, called black vomit, was generally found in the stomach. I have more than once seen the black vomit in a stomach not inflamed, and vice versa. Sometimes it contained no black matter whatever. In a few cases, the duodenum alone contained it. Generally it was found both in the duodenum and stomach. In one case, in which the patient had vomited black matter, it was found neither in the stomach nor duodenum, but the jejunum was much distended with it. In another protracted case, it was found no where but in the rectum. The black vomit, the black dissolved blood of the liver, and the black bile of the gall bladder, differed materially from one another. On diluting a quantity of the black bile with water, it stained the hand, first of a green, and then of a yellow colour. The portal fluids when diluted, would leave the stain of blood, but the black vomit diluted, left no stain at all; and when the water in which it was put, stood awhile, it became as clear as it had been before.

### *The Kidneys.*

The adipose substance in which the kidneys are bedded, was nearly always of a scarlet colour, particularly in those subjects who had, previous to death, a suppression of urine. The cortical portion of the kidneys was, in a few subjects, so highly diseased as to approach nearly to a state of gangrene. On making a section of a kidney, and squeezing it, a grumous blood would issue from the tubuli uriniferi. The right was more diseased than the left kidney. The bladder was sometimes thickened and contracted, and contained, in such cases, only a small quantity of a reddish, fœtid urine.

*The Spleen.*

This viscus was generally somewhat enlarged in those cases in which the stomach was not inflamed; but to this remark I saw an exception. In one case it fell to pieces on being handled, like a mass of coagulated blood. The patient had died of yellow fever, which had immediately succeeded a violent and protracted intermittent. The cellular membrane, which connects the spleen to the stomach, and that which connects it to the pancreas, was generally inflamed.

*The Heart.*

In by far the majority of subjects the ventricles and auricles of the heart contained from one to twelve hydatids. I call them hydatids for want of a better name. They resembled in some measure oysters, but were, however, of a yellow colour. They seemed to consist of a delicate tissue, woven into numerous cells or cysts, each of which contained a yellow fluid. When any cyst was opened, the fluid only of that cyst would exude. These substances had peduncles, which were based among the decussating fibres of the ventricles and the musculi pretinati of the auricles. Appendages of them extended from the ventricles into the arteries; and from the auricles into the veins. The heart was sometimes greatly distended by these substances, and contained no blood. In many instances spots of inflammation, an inch or more in diameter, were found on the heart. Often, the membranes surrounding the vena cava ascendens, and the right auricle were inflamed. When no hydatids were found in the heart, (or but few,) it contained a considerable quantity of molasses-looking blood. The great vessels which return the blood to the heart, were very much distended with such blood.

The *pancreas*, the *mesentery*, the *peritoneum*, the *jejunum*, the *ileum*, *cæcum*, *colon* and *rectum*, were often engorged with blood, but seldom inflamed. The tissues, however, about the head of the pancreas, where it is in contact with the duodenum, and those about the excavation in its posterior part, which is occupied by the splenic vessels, were nearly always inflamed. In one case the gland itself was evidently diseased. The colon was often inflamed where it touches the liver. It was sometimes greatly contracted in some parts of its great arch, and very much distended, by flatus, in others. In a dysenteric patient who took yellow fever and died, the colon was as black as soot from one end

to the other; the liver was also black. The rectum, in a patient who had suffered much from an hemorrhoidal affection and died of yellow fever, was highly inflamed. The jejunum and ileon in two or three subjects, were found inflamed. Introsusception was a very common occurrence to be met with in these bowels.

The small intestines contained generally a matter, which is very difficult to be described. It appeared to be a mixture of gray and blue. It had more consistence than black vomit. It differed from it in staining water. Like the black vomit, it had no disagreeable smell. It may not be amiss to remark in conclusion, that I once cut my thumb, while it was in a stomach, filled with black vomit, and continued to prosecute my examinations without tying it up; and that my hands have been several times scratched with spiculæ of bones in examining the spinal marrow, yet the only inconvenience which was experienced, consisted in a temporary swelling and stiffness of the fingers.

Nearly all these examinations were made before the subjects became entirely cold. The appearances after death, were less variable in those who had been afflicted with no other disease when attacked with yellow fever; but however variable the morbid anatomy of some parts of the system was found to be, it was invariably the same in the ganglionic system of nerves.

(*To be continued.*)

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The three following articles are taken from the Medico-Chirurgical Transactions of London, Vol. XIII. Part I. a work which has long occupied the highest place in the history of the profession; the greatest surgeons and physicians in Britain belong to this Association: the names of Cooper, Abernethy, and others, have already rendered it illustrious. The papers are presented to the subscribers entire; and the valuable practical matter contained in the remainder of this part of the volume, will be given under the head of Reviews.

## Art. II. *Case of Carotid Aneurism, successfully treated by tying the Artery above the Aneurismal Tumour.* By James Wardrop, Esq. Surgeon Extraordinary to the King.

Those cases of aneurism wherein it is impracticable to put a ligature on the artery between the tumour and the heart, have hitherto been deemed incurable; and the cases are by

no means very rare in which aneurismal tumours of the carotid, subclavian, and iliac arteries, extend beyond the reach of the knife, and the patient has been left to die under the most distressing circumstances.

As in those cases where the aneurism has been cured either spontaneously, or by tying the artery between the tumour and the heart, the curative process has been effected by the coagulation of the blood contained in the tumour, it is remarkable that surgeons should not have taken advantage of the knowledge of this fact, and in those cases were the artery could not be tied between the tumour and the heart, have tied it beyond the tumour.*

If we suppose a case of femoral aneurism in the middle of the thigh, it is easy to conceive that when the ligature of the artery at a distance from the tumour was first contemplated, it might have been a matter of dispute whether the ligature ought to be applied below or above the aneurismal tumour; for it is just as easy to imagine that the blood contained in the space between a ligature placed below an aneurismal tumour and the first arterial ramifications above the tumour should coagulate, as that the blood contained in the space between a ligature placed above the tumour and the first anastomosing branch below it, should undergo the process of coagulation. Besides, there are even advantages that might have been anticipated by tying the artery beyond the tumour, in such a case. In the first place, the danger of secondary hemorrhage at the place of tying the ligature would be less, from the little resistance it would, at that part of the vessel, be required to make to the impulse of the blood, in comparison to what would be necessary were the ligature placed between the tumour and the heart. In the second place, every collateral branch between the tumour and the heart would be saved to carry on the future circulation; branches which must be obliterated were the artery tied at some distance above the tumour.

This reasoning did not escape the ingenious Desault,† but he never made any practical application of it; and except in a deplorable case of aneurism of the femoral artery, unsuc-

* I have used this circumlocution for the sake of perspicuity; the words *above* and *below* having a totally different meaning, in reference to different arteries. Thus, tying the artery *above the tumour* in an aneurism of the femoral artery, implies between the tumour and the heart: while in an aneurism of the carotid artery, tying the artery *above* the tumour, implies *beyond* the tumour, or nearer to the *atlantal aspect*, agreeably to the ingenious language of Dr. Barclay's Nomenclature

† Œuvres Chirurgicales de Desault, par Bichat, tom. ii. p. 569.

cessfully treated by Deschamps, and in another unfavourable instance in the iliac artery, operated on by Sir A. Cooper,* I know of no others where the practice has been adopted. It therefore appears to me that the subsequent account of a case of carotid aneurism, wherein the artery was successfully tied beyond the aneurismal tumour, in place of the common operation of tying the vessel between the tumour and the heart, is particularly deserving of notice, as it serves to establish an important point in the treatment of aneurism, and may often be the means of saving life under circumstances in which the art of surgery has hitherto been deemed unavailing.

A lady, 75 years of age, after a very violent fit of coughing, perceived a swelling on the right side of her neck, a little above the clavicle. When I saw her eight days afterwards, the tumour had all the characters of an aneurism of the carotid artery, and had become as large as a fist; but was so situated that it was quite impracticable to tie the vessel below the tumour, so closely did it come in contact with the clavicle. The tumour continued to increase in size, and on the eleventh day after it was first observed, it had acquired a formidable aspect, the scapular portion having become very red and painful, the pulsation, which was very strong throughout the whole swelling, being here particularly so, and the parietes feeling extremely thin, and as if ready to burst.

It was evident that the patient's life was now in the most imminent danger, and in this hopeless condition it forcibly struck me, that it might be highly expedient to tie the carotid artery above the aneurism, in the hope that, by thus stemming the current of blood through the vessel, nature might establish a new channel to carry on the circulation, allow the blood in the tumour to coagulate, and the sac and vessel to contract and be obliterated, as take place after the common operation. There were circumstances which made this case particularly favourable for resorting to such a measure; the aneurism had been of short duration, the patient, though far advanced in years, had a healthy constitution, she was of a tranquil disposition, and eager that something should be done for her relief. Besides, the diseased artery was most favourable for the proposed operation, for as no branches are sent off from the carotid artery until it divides into the external and internal, the process of coagulation would not be interrupted by the continuance of circulation through collateral

* See Hodgson's excellent Treatise on the Diseases of Arteries.

branches in immediate contiguity with the aneurism. The operation also appeared practicable in this instance, as the aneurism, though large, extended upwards so as still to leave sufficient space for the application of a ligature between the tumour and the division of the artery.

Under these impressions, and with the approbation of Dr. Veitch and Mr. Glen, who also attended the patient, I undertook the operation, and the result of it has, in my opinion, fully authorized the measure; and I trust that the future experience of others will confirm its utility. The operation consisted in making an incision through the skin and cellular membrane, rather more than an inch and a half in length, commencing it immediately above the tumour, and extending it on the tracheal edge of the mastoid muscle, and in the direction of the carotid artery, taking care to avoid the large superficial veins. The subsequent part of the dissection was chiefly made with a silver knife, guided by the finger; and there was no particular difficulty in reaching the artery but what might have been anticipated, from its great depth, from the necessary limits of the incision, and from the numerous large veins which were carefully to be avoided—particularly a branch which extended across the middle of the incision to the internal jugular, and which consequently diminished the space in which the artery was to be taken up. After a careful dissection, which was tedious from its being necessary to tear the parts with the silver knife, the artery was so completely separated from the adjacent parts, that the point of the finger could be readily passed between the vessel and the vertebræ, and the aneurismal needle was passed round the artery with singular facility, taking care to avoid the par vagum, which was distinctly felt behind the finger. The vessel being previously ascertained to be healthy, one ligature was tied round it, as close to the tumour as the incision would admit, and the lips of the wound were stitched together by a suture, without any farther dressings. The aneurismal tumour was covered with adhesive plaster, in order to protect the tender skin, and at the same time to keep up a certain degree of pressure.

I thought it probable that the resistance to the circulation, which the ligature would necessarily occasion, might, for a short while at least, after its application, be followed by an increase in the distention of the tumour; instead of which, however, there was an immediate decrease in its bulk, marked by a considerable corrugation of the skin at the base, as well as a diminution of its redness. The ligature of the artery

did not seem to produce any change in the mental functions, or any unnatural feelings in the head; on the contrary, the patient passed the night after the operation more comfortably than that previous to it, the tumour being accompanied with less uneasiness.

A progressive diminution in the bulk of the aneurism, and in the strength of its pulsations took place, so that on the fourth day after the operation it seemed to have diminished nearly one-third in its bulk; the upper and tracheal portions had lost all pulsation, and only the scapular portion retained an obscure undulatory thrill. The integuments, which had lost their redness, now evidently became more inflamed, and during the fifth and sixth days there was a distinct increase in the size of the tumour, and it pulsated more strongly, which seemed partly owing to several severe fits of coughing. This apparently unfavourable change was, however, followed by a decided amendment; and eight days after the operation the swelling again began to diminish, and the pulsation became more obscure, so that on the fourteenth day it was not much larger than half its bulk at the time of the operation, and no pulsation could be detected in any portion of it; merely a slight vibration in some parts, which seemed to be produced by the pulsations of the contiguous vessels which were now enlarged, particularly the inferior thyroid artery.

The redness of the skin, however, continued to increase, and that of the scapular portion of the tumour to become more and more of a purple colour, till, at last, ulceration commenced on the most prominent part. Several considerable-sized portions of coagulated blood were discharged along with some healthy pus through the ulcerated opening; and on the twentieth day after the operation, the ulceration of the integuments had closed, and nothing of the tumour remained but some wrinkling of the skin, and a considerable degree of thickening of those parts on which the base of the tumour had rested. These continued to diminish, and at the end of the fifth week from the time of the operation, the neck had nearly resumed its natural form, a slight degree of inequality only remaining; the ligature had come away, and the patient's general health, to the management of which the greatest care had been bestowed, appeared now to be completely re-established.

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This case appears to me to prove satisfactorily, the possibility of the success of this mode of operation for aneurism, and of the important advantages which are likely to be de-

rived from it, more especially in those cases which have hitherto been considered beyond the aid of surgery.

The operation may also, under particular circumstances, be preferable to tying the ligature between the aneurism and the heart, even in cases where that operation is practicable. For as in that which I have just narrated, had it even been possible to have tied the artery between the tumour and the heart, how much more dangerous and difficult would the operation have been, and how much greater would have been the risk of secondary hæmorrhage at the place of the ligature.

The only circumstance which must be considered as indispensable to the success of this mode of operating is, that there be no vessel arising, either from the sac itself, or from the artery between the sac and the ligature, sufficiently large to keep up the circulation of the blood through these parts, and thus prevent its coagulation. I say sufficiently large, for it is perfectly ascertained that after the common operation of tying the artery between the tumour and the heart, pulsation to a certain degree often continues for some time, notwithstanding which, neither the gradual process of coagulation in the tumour is prevented, nor the subsequent contraction and condensation of the aneurismal sac and insulated portion of the artery.

When an aneurism is cured spontaneously, it is evident that in general the process must in like manner be slow; and that the circumstance of the circulation through the tumour being rendered languid, equally suffices to admit of the blood coagulating, as if circulation was completely stopped.

These considerations led me therefore to hope, that the operation of tying the artery beyond the aneurism, will in many instances be successful, even though the current of blood through it be not completely stemmed. To ensure, however, this being done, the ligature should be made as close to the tumour as possible, in order to preclude the chance of leaving a branch between the tumour and the ligature, which would carry on the circulation; and I can even conceive cases wherein it might be practicable to tie such branch separately, so as effectually to prevent the circulation being carried on through the aneurism.

Charles Street, St. James's Square,
July 1, 1825.

ART. III. *Cases in which the operation for the removal of Cicatrices from the Neck, consequent on burns, was successfully performed, with remarks.* By J. H. JAMES, Surgeon to the Devon and Exeter hospital.

THE profession and the public are much indebted to Mr. Earle for the practice he has recommended and introduced in deformities consequent on burns.* In one species, however, arising from this cause, it certainly would appear that great difficulty has arisen in the application of his principle, and we have very high authority for believing that relief is not commonly obtained.† I allude to those cases where the cicatrix exists between the lower jaw and sternum, an occurrence unfortunately not unfrequent. Three of these have come under my care, and in the two last, every benefit was obtained from the operation that could be expected or desired. These cases I will relate, as they will serve to explain the plan I adopted.

CASE I.—Elizabeth Bully, a girl between eight and nine years of age, was admitted a patient of the Devon and Exeter Hospital, on account of a cicatrix of this kind, the consequence of a burn, from which she had suffered about seven months before. It was large, broad, and dense, tying down the chin closely to the sternum, so that there was not an interval of more than an inch between them by measure; it was situated a little towards the left side, and the corner of the mouth was a good deal drawn down by it: it also projected much from the ordinary surface of the neck, so as to efface the projection of the chin.

March 9, 1824.—I performed the operation in the following way: I made two incisions, one at either edge of the cicatrix, extending to its termination at the upper part of the sternum where they met; I then dissected up the flap, of which I removed no part, but having completely freed it, I found I was able to dispose of it out of sight under the chin. The distance between the sternum and the chin was now increased to at least three inches by measure.‡

I supported the cicatrix in its situation, first by broad straps of adhesive plaster, and secondly by a compress of lint

* See two papers contained in the sixth and seventh volumes of the Medico-Chirurgical Transactions.

† Sir Astley Cooper's Lectures, edited by Mr. Tyrrel, vol. I. p. 178.

‡ It is generally necessary to set free the edges of the wound by little transverse cuts, which was done in this and the succeeding case.

secured by a broad fillet fastened at the top of the head, so as to make a good chin. I then tried to approximate the edges of the wound beneath by straps of plaster, but this could only be accomplished in a partial manner. I then put on the screw collar, the construction of which is described at the end of this paper. I soon found that this was of no service, for when the wound inflamed and became irritable, she contrived, from its being rather too large, to slip the chin within it. I therefore contented myself with applying a collar of pasteboard with a poultice underneath, and laid her head nearly on the same horizontal line as her body, till a smaller screw collar could be made. In the mean time suppuration was freely established, and the irritation of the wound having subsided, I was enabled after a few days to apply this.

In the course of the cure, this girl was attacked by measles, which somewhat delayed it; notwithstanding which, the sore healed in about four months. A similar period has since elapsed, during which, instead of any ground having been lost, I think the parts have given way still more, and the distance between the chin and sternum is now three inches and a half. The old cicatrix is perfectly concealed under the chin, and as she grows up I think very little trace will remain of this deformity.

Case II.—Elizabeth Beal, aged thirteen. This girl was burnt four years since. The cicatrix was more extensive than in the last case, reaching as far as the lower edge of the second rib; it was exceedingly broad and dense on the thorax, and it was also very broad on the front of the throat, but less dense there than above or below. I did not measure the distance between the chin and the sternum prior to the operation, but I think it was hardly greater than in the last case. The head was tied to the thorax in the same unhappy manner, and the integuments of the face were slightly drawn down even when in the ordinary stooping position. The chin was also effaced in this instance.

May 4, 1824.—It would have been a dreadfully severe, and probably a much less serviceable operation, to have dissected off the whole of this immense cicatrix, and therefore I adopted the following plan: I made two incisions, one on either edge of the cicatrix, of about three or four inches; I then pinched up the cicatrix in the middle, between the finger and thumb of my left hand, and drew it forcibly out; I next pushed a long, straight backed, narrow knife, through from one incision to the other, and turning its blade outwards, I at once divided the intervening band, making a cut of at

least two inches, with very trifling pain; I now freely detached both the flaps, until the girl could carry her chin horizontally without dragging the integuments of the thorax.

When the patient is refractory, as in the first case, it is by no means an easy matter, or free from hazard, to dissect up the dense cellular substance from the subjacent parts, obscured as the operation is by very copious bleeding: and in truth, in that case, I was several times under considerable apprehension, notwithstanding the care of the gentlemen who assisted me, that she would have thrust her throat against my knife, which might have been an awkward business if the point had penetrated near the alæ of the os hyoides, where the cicatrix particularly adhered. In this case, therefore, I used a knife much rounded, the point being completely ground away. My present patient was, however, very tractable.

I proceeded as before to tuck the upper flap under the chin, and confined it in its situation by long straps, compress and broad fillet. Then, having dressed the neck below lightly, retaining the lower flap in the situation to which it had been separated from the other, (a distance of more than two inches,) I applied a poultice, and over that a pasteboard collar; and I continued this plan for some days, until the chin was formed and suppuration established. I then substituted broad straps in front of the throat, for the pasteboard collar, and applied the screw collar with a short screw. By degrees we were enabled to raise the chin to the full extent of this screw, and have since substituted a longer one.

The result of this operation has been equally successful as the last; the chin is well formed, and the new cicatrix is soft and pliant. The girl can raise her chin without difficulty above the horizontal line, and the measured distance, without stretching the integuments, is three inches and a half. The neck has now been well sixteen weeks. In this case I continued a poultice in a bag over the other dressings nearly to the termination of the cure, and with advantage.

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If we may judge from present appearances, there is every probability that the cure will remain permanent in both these cases, and I see no reason for thinking they will contract again. In the first place, the *old* cicatrices had contracted to the utmost, before the operation was performed. The question is, will the new cicatrices contract? I cannot see why these should do so, otherwise than if they had been formed subsequently to the removal of tumours, or to any other

breach of surface in the same situation. Such cicatrices *do* contract, but in most instances where the cause has not been a burn, the neighbouring integuments elongate so as to remedy this, of which I lately saw a very remarkable instance in a man whose eye-ball, with a part of the lids, had been extirpated for a disease of that organ. When I saw him, there was a line of cicatrix at the bottom of the orbit, and the whole of that cavity was covered by an extension of the remaining portion of the eye-lids, which fact was satisfactorily proved by the following circumstance; that when he closed the lids of the sound side, simultaneous action of muscular fibres could be very clearly perceived in the integument lining the empty orbit. I cannot suppose that these were a new formation in this situation, but that in proportion as the interstitial matter of the cicatrix was absorbed, more and more integument was borrowed from the surrounding parts, which, not improbably, is produced more largely from the demand made for it.

How it is that cicatrices produced by different causes differ so much in their constitution, has not hitherto been satisfactorily explained; but at present it may suffice to say, what is sufficiently known indeed, that those which follow a severe burn are peculiar; and it is one of their peculiarities to produce this species of contraction for which Mr. Earle has proposed as a remedy, to substitute a new cicatrix for it.* To return to the cases above related. From the soft, healthy state of the cicatrices, and from their having allowed the parts to recede still more since the wounds have healed, there is every reason to hope that the ground already gained will be preserved; but as a useful precaution, I intend these girls to wear their collars for a year or two, in which period another guarantee will be obtained against a relapse, namely, that the bodies of the vertebræ, which probably were narrowed in their anterior capacities during the action of these bands, will have recovered their natural dimensions, and thereby oppose any recurrence of the deformity. It would probably have been deemed more satisfactory to have deferred this communication till a longer trial had been made,

* Mr. Earle is of opinion that the advantage is derived from approximating the edges of the wound, and so obtaining a cicatrix in the transverse, instead of longitudinal direction, and this indeed appears to be the case: but where it happens (as it often will) that the edges can be approximated but in a very slight degree, I believe the same object will be obtained by the natural process now mentioned, if care be taken to maintain a proper distance in a longitudinal direction.

but for the reason above stated this would have occasioned a greater delay, than with my firm belief of the permanence of the cure would have been necessary or right.

From these cases it will appear that the objects I have had in view are, 1st. To make a good chin. 2d. To conceal the old cicatrix in that situation without removing it. 3d. After the parts have been relaxed by suppuration, to separate the chin from the sternum by the gradual but sure operation of the screw.

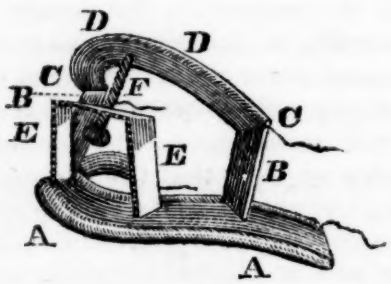
The collar, of which a sketch is annexed, executed by a very intelligent pupil of this hospital, Mr. Nelson, consists of the following parts:

*A A* An arch slightly curved, to adapt it to the form of the parts resting on the sternum and clavicle, and carried back far in the neck.

*B B* Two uprights with hinges at *C C* situated nearly under the angles of the jaw.

*D D* Another arch which is applied beneath the base of the jaw.

*E E* A steel frame which supports the upper arch, with a screw *F* passing through it, by means of which the upper arch may be elevated at pleasure.




I believe very complete success may be obtained from the operation, performed in the manner above described, if sufficient attention be paid to the after treatment, but without this its object may be defeated. It is more particularly necessary to prevent the collar from galling, and if it should bear on any part of the sore, it should be raised from the surface at that point, by thickening the padding elsewhere. Also, it is desirable to have the upper arch made with a curve not too large, for that might allow of the chin being withdrawn within it; nor should the frame *E E* be too high at first. A second collar may be used in the progress of the cure, or a new frame or screw may be added to the old one.

The material of which the arches are composed is sheer steel, sufficiently padded and covered with leather.

It is right that I should mention that my friend and colleague, Mr. Harris, has, since these operations have been performed, adopted an apparatus in a case which came under his care, which varies from mine in the following particulars. It retains the arch which supports the chin, and this arch rests upon an upright which also possesses the power of elevating that arch at pleasure, but this upright rests on a plate which is fixed as a belt to the lower part of the thorax, and is secured from slipping down by two shoulder-straps. It is not improbable that it may answer the purpose better than the instrument I have described above, but as the case is still under trial, I can say nothing more than that it promises well; at the same time I should say that my own reason for adopting the instrument I have described, arose from the belief that the accommodating powers of the vertebral column would be likely to defeat our endeavours, and *therefore* I wished the fixed points to be the sternum, clavicle, and lower jaw.*

Under the impression that the foregoing cases possess sufficient value to justify me in making them known to the profession, I have been induced to offer them to the notice of this Society.

Exeter, Dec. 16, 1824.

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ART. IV. *Case of Axillary Aneurism successfully treated by tying the Subclavian Artery.* By CHARLES ASTON KEY, Esq. Surgeon to Guy's Hospital.

GEORGE VAUGHAN, æt. 36, whose occupation is that of an extra-tide waiter at the Custom-House, in the month of July last, while making a sudden exertion with his right arm, felt

* The first case I had was that of a girl of the name of Lee, about seven years old, on whom I operated Oct. 17, 1818. I then used the pasteboard collar, aided and assisted by every contrivance I could devise, but had the mortification of finding that my efforts to establish the distance between the chin and sternum, which I had gained by the operation, were defeated by the soreness of the parts if the width of that collar was increased, and by the great flexibility of the vertebral column if I used any species of bandage; and it was on that occasion I was first led to try the screw collar. This was not, however, till more than two months after the operation, and the cure in this case was far less perfect than in the two subsequent ones which I have now related.

(as he expressed it) something snap below the collar bone, attended with a slight degree of pain. In a day or two afterwards, he perceived a small tumour on the fore part of the chest, about an inch and a half below the clavicle, which pulsated strongly. It continued to increase in size, but was not attended with much pain or inconvenience, nor was he induced to refrain from his usual occupation.

On the 29th of August, he presented himself at Guy's Hospital as an out patient, and I detained him for the opinion of Sir Astley Cooper. The aneurism was large, forming a regular circumscribed swelling from the edge of the clavicle to the lower edge of the pectoral muscle; the pulsation was strong, and could be felt distinctly in all parts of the sac; his arm was not painful nor swelled, but he complained of slight numbness in his fingers. His health was unimpaired, and he appeared in all respects in a condition to benefit by an operation. It should likewise be mentioned, that pressure on the subclavian artery not only commanded the pulsation in the aneurismal sac, but so effectually prevented the blood entering the sac, as to empty it almost entirely of its fluid contents. The nature of his complaint was explained to him; and he left the hospital with injunctions to keep his arm quiet, to live temperately, and, if possible, to relax in his attendance on his usual employment.

He called on me once or twice with the aneurism and the limb precisely in the same state. As I was about to leave town for a few days, I did not propose the operation to him immediately; but cautioned him against using, or allowing to be used, any means that the officious ignorance of friends might suggest.

In a day or two after my return, he again called on me; and surprised me by the visible alteration in his appearance. His countenance was pallid, and covered with a cold perspiration, and indicated great distress; his arm and hand were extremely œdematous; the subcutaneous veins of his arm, shoulder, and side of the neck, were distended with blood, and formed a varicose plexus, evincing the degree of pressure under which the axillary vessels were labouring. The aneurismal tumour had lost its pulsation, and could not be felt to vibrate from the ingress of the blood; it had increased considerably in size, extending lower down into the axilla, and forming a more prominent tumour under the pectoralis major. The pain he experienced was unceasing, depriving him of rest, and producing a high degree of constitutional irritation; his pulse above a hundred in a minute, and sharp;

his tongue white and glassy. The pain was most intense along the inner side of his arm, extending from the back part of the axilla to his elbow. He then explained the cause of this change; during my absence, in consequence of some uneasy sensations he began to experience in the shoulder, he was recommended by a surgeon to try the effects of pressure in reducing the tumour; for this purpose a piece of cork was bound over the artery above the clavicle, and bandages with pads were applied tightly about the tumour: the axillary vessels and plexus of nerves unable to bear this pressure, resented such treatment by producing the ill effects above mentioned.

After I had explained to him the nature and the urgency of his symptoms, and that the only means of alleviating his sufferings consisted in the operation of securing the artery by ligature, he expressed his willingness to come into the hospital, and to submit to any operation that could hold out a chance of relief. On Thursday, September 19th, he was admitted into the hospital; and Mr. Travers coinciding in the opinion, that the operation of tying the subclavian artery afforded the probability of being attended with success, one o'clock on the following day was appointed for its performance.

The patient being brought into the operating theatre, the extent of the sac in the neighbourhood of the subclavian artery was ascertained, to guard, if possible, against the danger of opening it during the operation of passing the ligature under the vessel; it appeared to be bounded above by the subclavian muscle, and the artery above the clavicle appeared (as far as the finger could ascertain) to be healthy. The clavicle was raised to its utmost, and was curved considerably backward towards the trapezius muscle; it could not be raised higher by pressure made upwards against the elbow. The patient being laid upon an inclined plane, so that the light from a large skylight might be thrown into the triangular space in which the artery lies imbedded, I began the external incision in the following manner. Standing by the patient's right side, I drew the integuments down over the clavicle with my left hand, and cut freely upon the bone, beginning about half an inch over the clavicular portion of the sterno-mastoid, and continuing the incision outwards for three inches. The integuments being relaxed, the incision became raised about the third of an inch, above the clavicle, and exposed a strong platysma myoides, which was divided to the same extent. Numerous turgid veins were now ex-

posed lying upon the cervical fascia; to avoid them was impossible; they were therefore divided, and about three ounces of blood were quickly lost; one larger than the rest was secured by Mr. Travers to prevent any obstruction from hemorrhage in the after-steps of the operation. The dense outer layer of the cervical fascia was then more freely divided, and the loose cellular texture enveloping the glands of the neck being detached by the finger, the omo-hyoideus was laid bare. A little farther dissection with the end of a director exposed the artery to the finger, pulsating over the rib; but the depth of the angle, in which it was enclosed, rendering it impossible to pass a ligature under it, about three quarters of an inch of the clavicular portion of the sterno-mastoid was divided, which afforded sufficient room, and rendered the concluding part of the operation easy; the artery became readily exposed to view, and an armed aneurismal needle was passed with facility under it. A single ligature of silk was tightened around the vessel, and the edges of the wound brought into contact with two sutures and adhesive plaster. The patient had been so little exhausted by the operation, which lasted twenty minutes, that he expressed a wish to walk down stairs to his bed, which of course was not consented to.

The absence of any very untoward symptoms renders it unnecessary to trouble the Society with a detail of the conclusion of the case. It will be sufficient to mention, that eight and forty hours after the operation, a general excitement of the system with an acceleration of pulse, induced Mr. Travers to prescribe (during my absence from town) a purgative of scammony and calomel, which not only removed the symptoms of general fever, but also a retention of urine, arising from a slight stricture, under which he had previously laboured. His urine had been twice drawn off by the introduction of the catheter. A trivial irritation of the trachea, inducing an occasional cough with expectoration, was allayed by the opiate linctus of the hospital. Opiates in other forms were not found necessary, with the exception of two nights on which his rest had been broken, when gtt. xxv tinct. opii were given him. The œdema of the limb subsided quickly after the ligature was applied to the vessel; its natural warmth was maintained, perhaps aided by being enveloped in a double fold of thin flannel; and the pain of which he complained prior to the operation, altogether left him as soon as he returned to his bed. The local treatment consisted in the application of a light poultice to the wound, after the re-

moval, on the fourth day, of the adhesive straps and sutures, and in the prevention of sinuses from the lodgement of purulent matter.

The ligature was found lying detached in the wound, on Wednesday morning, October 1st, the twelfth day after its application, and was removed without hemorrhage. The wound was nearly cicatrized, with the exception of the aperture occasioned by the ligature, which is gradually closing. On the following day he was allowed to leave his bed, and walk about the ward, to relieve the fatigue occasioned by the uniform position he had scrupulously maintained, till the ligature came away. The tumour is gradually subsiding, gives him no uneasiness, and promises to be absorbed without inflammation or suppuration. The pulse at the wrist cannot yet be felt.

It remains for me to acknowledge the kind assistance afforded me by Mr. Travers, not only during the operation, but also in the after treatment of the case, together with the interest he manifested in its progress. The wound was attended with the greatest care by Mr. Herbert of Farringdon, Berks, at that time a dresser to Sir Astley Cooper, to whose assiduity the patient is indebted for its speedy cicatrization.

The fatality hitherto attending the operation in the practice of this town, has induced me to lay this case before the Society, as a proof, in addition to cases published by surgeons of other countries, that we may expect as much success to attend the ligature upon the subclavian artery, as upon the other large arteries of the body. Past experience may perhaps not appear to warrant this expectation; but in estimating the probability of success, we are to regard not so much the number of fatal cases, as the causes of this fatal termination; and whether they are adventitious or essential to the operation of the ligature on this vessel. The only circumstance that ought to deter a surgeon from putting a ligature around any artery in the human body (I will not except the aorta) is, the uniform cessation of circulation in the parts below the ligature. That this is a rare occurrence after the subclavian operation, surgical records will prove; within my own experience, the operation has been performed three times without the least tendency to that state. The cause of death must therefore be sought for in circumstances not necessarily connected with the operation, and which may consequently be avoided. The most common causes of death, I believe, will be found to be, suppuration in the anterior mediastinum, in consequence of the violence done to the parts during the

operation; and inflammation of the pleura, with consequent effusion into the cavity of the thorax. The former may be attributed solely to the injudicious disturbing of the reticular membrane connecting the artery with the scalenus anticus and with the pleura. This reticular texture will be found to be continuous with a similar texture in the anterior mediastinum, and inflammation set up in the former quickly spreads through the latter, in consequence of the free communication of the cells. In performing the operation the surgeon may altogether avoid this danger, by confining the point of his director or aneurismal needle to that part of the artery which lies upon the rib; the pulsation is here more readily felt, the situation of the vessel more easily ascertained, and the artery is more accessible to the ligature, than where it is emerging from behind the scalenus muscle. Inflammation of the pleura is to be apprehended, more from the advanced state of the disease prior to the operation, than from injury done during its performance. The extent of the sac, which quickly attains a great size in consequence of the loose texture of the cellular membrane under the pectoral muscle, causes great local irritation by its pressure on the axillary nerves, and the effect of irritation upon a nerve in producing inflammation in the part to which it is distributed, is happily illustrated by Mr. Brodie's experiment on the par vagum. By its pressure on the neighbouring veins, the sac also induces a general œdematous effusion, in which the pleura often partakes; and from the peculiar termination of the bronchial veins on the left side of the body, serous effusion from the pleura pulmonalis, when the disease exists on that side, may be regarded as a probable occurrence. In a patient on whom I performed the operation in the winter of 1822, and who lived till the seventh day, the appearances I have alluded to were present, and the pericardium was highly inflamed and lined with a coat of adhesive matter.

I shall conclude this paper by adverting to two circumstances, which greatly facilitate the operation; one, is the division of part of the clavicular portion of the sterno-mastoid muscle, to which I should not again have alluded, had it not been expressly condemned by some of our best writers. The other circumstance which is equally important, is the mode of conducting the needle under the artery, and of raising the end of the ligature from the eye of the needle to the surface of the wound. I believe this to have constituted the principal difficulty in every operation on this artery since Mr. Ramsden's case at St. Bartholomew's hospital. I have there-

fore subjoined a drawing of the needle and ligature I employed on this occasion, and I believe that it will be found useful in all cases, in which, from the depth of the vessel, the extremity of the needle necessarily eludes the eye of the operator.

The needle* consists of a piece of iron fixed in a flat ivory handle, and the curve that I have found most manageable in operating upon the larger arteries is represented. After passing the silk through the eye of the needle, a common loop and knot are made at *a*; the ends of the ligature being drawn tight so as to bring the knot close to the eye of the needle, a second knot is made at *b*; by pulling the second knot, the knot *a* can be kept close to the eye of the instrument. The operator, having passed the needle under the artery, feels for the extremity of the instrument and the knot drawn close to its eye; by gently moving the knot, the loop becomes disengaged, and can be drawn to the surface of the wound. Both knots being cut off, the operator can use one or two ligatures, as he may deem expedient.

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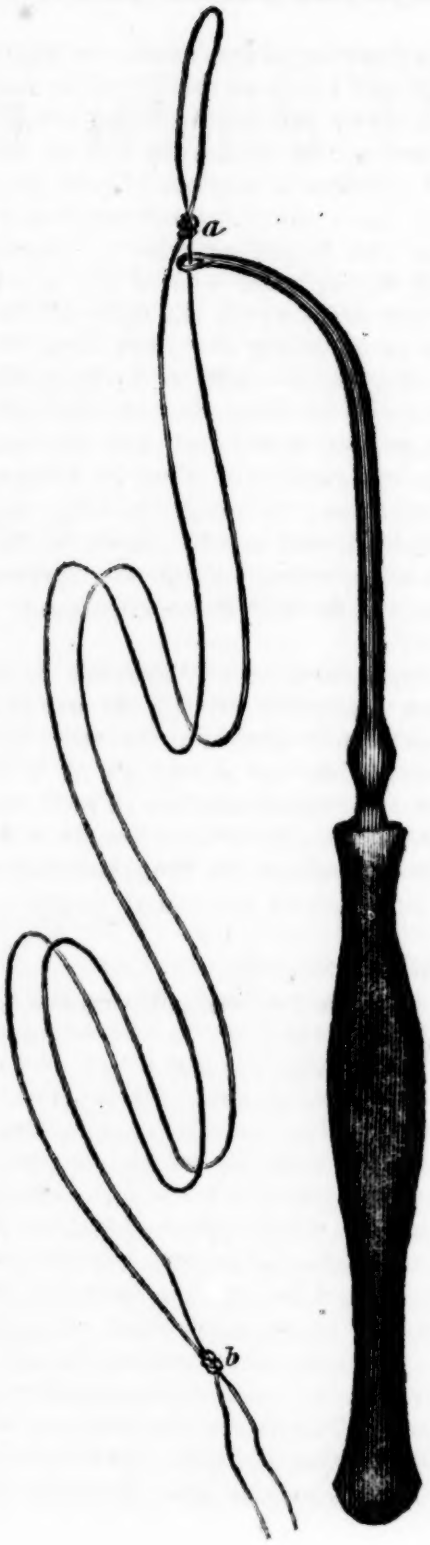
Since the communication of this case to the Society, the patient has been gradually gaining the use of his arm, which is now nearly as perfect as that of the other limb; the tumour has disappeared, with the exception of a hardness which usually remains after the absorption of an aneurismal tumour. The pulse at the wrist I have been unable to discover, though others, who have examined the limb, have felt something like a thrill in the situation of the radial artery.

May, 1824.

* The needle is one used by Sir Astley Cooper, but with the curve altered.


a
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ART. V. *On Diffuse Inflammation in the Cellular Membrane.* By DAVID SCOTT, M. D. Cupar-Fife. Communicated to Dr. Duncan, Junior.

DEAR SIR—I beg to send, for your perusal and consideration, several cases of diffuse inflammation in the cellular membrane, which have occurred in my neighbourhood, and chiefly in my own practice, and which I think you will find illustrative of the remarks and doctrines that you have published in the Medico-Chirurgical Transactions of Edinburgh, concerning the history and nature of this disease.

1*st*, That it is a variety of inflammation not sufficiently noticed or appreciated by systematic writers; a circumstance which, from its frequency, is the more remarkable.

2*d*, That its nature and peculiarity of character have been overlooked, or not so correctly marked, as those of most other diseases are.

3*d*, That it arises from various sources of irritation, though from some more commonly than from others.

4*th*, That from its frequent occurrence, often arising as a consequence of the most common prescription, it demands much more of the attention and inquiry of medical men, than has hitherto been bestowed upon it, and to which, from its not unfrequently fatal termination, it is so justly entitled.

### CASE I. *Arising from a Sprain.*

February 24th, 1825.—MARY TAYLOR, 18 years of age, of fair complexion, unmarried, works at the weaving trade, and occasionally at country work, was engaged about a month ago at a family washing, during which she said she caught some cold, as she was unwell and feverish for some time. About a fortnight after, whilst engaged at the loom, she over-exerted her left arm, by which she thought she sprained her elbow-joint; soon after which, her left arm became tumefied and painful, with stiffness between the shoulder and elbow-joints, and difficulty in moving the arm.

In the course of a few days the swelling and pain reached the anterior part of the shoulder and arm-pit, and in these parts continued without much alteration for a fortnight; at the end of which time, when circumstances were becoming worse, I saw her. I found her complaining of severe pain in the anterior part of the shoulder, in the clavicular portion of the deltoid muscle, and in the arm-pit, especially when

moved or pressed on. The swelling occupied not only all the hollow between the dorsal and pectoral muscles, but extended anteriorly over the pectoralis major, as far as the sternum, and posteriorly nearly to the spine; it was elastic and spongy to the feel; the skin, however, was in no way discoloured, nor did it seem to point to one place more than to another.

The accompanying fever was that of the typhoid type, with great prostration of strength; pulse ranging from 110 to 120, weak, and very compressible. She had, of her own accord, in the beginning applied leeches to the part affected, with little relief; had taken some purgative medicine; and finally, a blister was put on, which last seemed to have had a considerable effect in inducing a limit to the diffusive character of the complaint. At this time, with a view of arresting its spreading, it was lanced in its most depending part, but no matter was obtained, only a little bloody serum flowing out. Poultices were therefore ordered for a couple of days; and to allay irritation and pain, an opiate at night, with a laxative through the day, was prescribed.

By the end of two days, the swelling, though still of the diffusive character, became somewhat more pointed in the axilla, when it was again lanced, and about three large teacup-fuls of well formed thick purulent matter were obtained, which produced a considerable subsidence of the swelling anteriorly and posteriorly. The poulticing, with mild laxatives, was continued. Next day, when visited, the wound was found closed, and in consequence no matter had escaped through the night. It evidently however had re-collected to a considerable extent: and as she always lay on her back, another opening was made as posteriorly and depending as possible, when two large teacup-fuls flowed out, which evidently came from before and behind the pectoral and dorsal muscles; because, by placing one hand on the sternum and the other on the spine, and bringing them forward with gradual pressure to the axilla, large quantities of matter were pushed before them towards the orifice of the wound, and flowed out. To prevent its closing, a small tent was put into it, and poulticing reapplied, her bowels were attended to, and a more nutritious diet allowed. Next morning, when the tent was taken out, other two teacup-fuls were obtained, and the same treatment continued.

At this time she was much emaciated, and her strength greatly reduced, and in short she had much of the appearance of a person who had suffered from a long course of

typhous fever, manifested by extreme debility, weak, rapid, and tremulous pulse, a yellow or bilious cast of countenance, a clammy easy perspirable skin, with prostration of appetite.

In the course of three or four weeks her health and strength gradually recruited, during which time, however, no less than twenty teacup-fuls (which I had previously desired her to reckon with accuracy) had flowed from the wound, indicating the great extent of the cellular membrane occupied by disease. A stiffness and immobility remained for a considerable time in the parts affected, owing most likely to the destruction of the cellular membrane, and the subsequent adhesion of the skin to the subjacent muscles, which membrane, however, in progress of time, appears to have been regenerated, as the mobility of the parts was finally restored.

### Case II. *Arising spontaneously.*

April 3d, 1825.—David Scott, aged 30, of sanguine temperament, by trade a butcher, was seized on Sunday, whilst at church, with severe pain at the insertion of the deltoid of the right arm, so much so as to arrest his attention, and to cause him to send for medical assistance; which being obtained, he was bled from the same arm, with relief at the time, confined to the house, and purgatives employed. Immediately before this attack, he was much employed in his profession, especially in the killing of pigs, in which he had hard work, with much heavy lifting.

The pain, however, recurred; the arm became tumefied, spread to the anterior part of the shoulder and axilla, in which last place, and the adjacent parts around, it remained fixed for nearly two months, showing no disposition either to go off by resolution, or terminate in suppuration, and during the while vexing the patient with much pain, especially on pressure or motion, inducing a fever of the typhoid type, with great irritability of system, and considerable emaciation.

The remedies employed were general and local bloodletting, fomentations, poultices, purgatives; all which, however, had little effect in reducing his painful symptoms. In this case blistering was not employed. At last, it began to point in the axilla, and after a while was lanced, when a great quantity, several teacup-fuls, of purulent matter flowed out, and continued to flow for eight days; although, from the size of the swelling in the axilla, individually considered, it

had not the appearance of being able to contain more than half a teacup-ful; yet, low down in the side, and behind the pectoralis and latissimus muscles, it felt quite tumefied and elastic, or *boggy*, as it has been most excellently and pathognomonically called; which feeling and tumefaction decreased as the matter flowed out at the wound, showing the extent of the disease that was in action beneath, though not indicated by any discoloration of the skin. A feebleness, with stiffness in the arm and side, the integuments being affected with considerable contraction or puckering, remained for a length of time; but he gradually, though slowly, recovered.

CASE III. *Arising spontaneously, or from slight Exertion.*

August 29th, 1825.—ISABEL WILKIE, aged 23 years, of florid complexion, and tolerably corpulent, at the time in good health, unmarried, was seized, in the morning immediately on getting out of bed, with severe pain in the bend of the right arm, near the insertion of the biceps flexor cubiti, which in the course of the day considerably increased, so much so as almost to cause fainting, with great languor of system, and irritability of stomach.

Next day, the whole arm above the elbow became tumefied and tense, very sensible to pressure, yet presenting no discoloration as indicative of any affection of the skin. In the course of a few days, the pain and swelling reached the anterior part of the shoulder, afterwards lodged in the axilla, and in progress of time spread anteriorly over the whole right breast as far as the sternum, and posteriorly nearly as far as the spine.

After six weeks of severe suffering and pain, accompanied with great exhaustion and constitutional disturbance, symptoms of a matter fluctuating under the skin became apparent on the inside of the biceps cubiti, in the axilla, and on the anterior and lower part of the breast near the sternum. Yet in none of these places did the affection point after the manner of a boil or abscess, limited in extent by the effusion of lymph, as indicated by the conical form, inflammation and discoloration, with subsequent thinning of the cutis, from the ulcerative absorption; but the puffiness was of a uniform diffusiveness, the skin not discoloured, and showing no disposition to point. However, it was lanced in these places, as presenting the best chance of an outlet, when the matter flowed out in large quantities, and continued to flow for several weeks, gradually diminishing.

The parts, however, remained for a considerable time, from the destruction of the cellular membrane over so large a surface, stiff and unyielding, and the skin a good deal contracted or puckered; but in progress of time the natural appearance of the latter, with flexibility of the former, was restored. The complaint lasted for four months, but she finally got quite well.

The accompanying fever was that of the low typhoid type; the depression of strength, and irritability of system, were great, of the stomach particularly so; and she had occasionally epileptic attacks, followed by a peculiar sensation of sinking, as if threatened with immediate dissolution.

The treatment, as conducted by my friend Dr. Forbes, with whom I occasionally saw her, was, in the beginning, general, and afterwards local blood-letting, by means of leeches, frequently repeated fomentations, blisters, poultices, and finally wine, with a more generous diet. The good effects from the former of these remedies were never lasting; they merely retarded, but did not prevent the suppurative process, which, in this variety of inflammation, seems to be its peculiar and ultimate termination.

CASE IV. *Case of severe Pneumonia, succeeded by diffusive Inflammation in the Cellular Membrane, arising from the Puncture of a Lancet in Bleeding.*

December 14th, 1824.—ALEXANDER PATERSON, aged 42, a tall spare man, of a dark and sallow complexion, a farmer's servant, complained for several days of hot and chilly sensations, with declension of strength and appetite, a little difficulty in breathing, and occasional pain of breast; which two last, in consequence of a journey in which he had been engaged during the previous part of the day, became towards night, on his return home, exceedingly urgent, so much so, as to induce the other servants who were with him to carry him straight to his father's house, which was hard by, instead of to their master's, and to send immediately for medical aid. I found him labouring under extreme difficulty in breathing, and great pain of the right breast, referrible to between the fourth and fifth ribs. His face, and indeed his whole body, was covered with a profuse perspiration, apparently induced by the severity of his suffering; very anxious and apprehensive; pulse 100, strong and hard. Seeing it an urgent case of pneumonia requiring active means, his right arm was immediately tied up, and bled from a large orifice.

The blood flowed rapidly and in a full stream, but no remission whatever in the difficulty of breathing and pain took place, until ten teacup-fuls of the ordinary size were withdrawn, when the pain remitted a little; but the breathing not being equally relieved, other two teacup-fuls were taken away, being twelve in the whole, or upwards of seventy-two ounces, when approaching syncope manifested itself, with feebleness of pulse. The blood drawn presented the buffy coat to a great extent in all the cups. His arm was bound up, and a blister ordered.

Next day, 15th, the pain, with difficulty of breathing, having recurred in the morning, six teacup-fuls were again drawn from the same orifice, but without having recourse to the lancet, with considerable remission of his symptoms; and his bowels having been inactive for some days, a purgative was ordered; the blood still very buffy; the blister rose well.

The following day, the 16th, again bled from the opposite arm to six teacup-fuls, the pain and oppression in breathing, with hardness of pulse, having returned; began to get nauseating doses of tartar emetic every two hours; purgative operated well.

17th.—The pain having again returned, with difficulty in breathing, he was bled once more from the right arm, but not from the same orifice, to four teacup-fuls, with remission of his symptoms. Ordered a solution of Epsom salts, with tartar emetic, every two hours, so as to act both on the bowels and skin.

18th.—His pectoral symptoms appear to be relieved; can breathe freely and easily without pain; pulse soft; skin moist; bowels easy, and nausea induced from the action of tartar emetic; complained of one of the orifices of his right arm being a little fretted and painful; medicines continued.

19th.—From this time made no more complaint in reference to his pneumonic attack, a sensation of weakness, or numbness, as he called it, remaining only in the part affected, as if the circulation in it was not duly restored, or the nerves of the part occupied by disease had been slightly affected with paralysis, from over-distention of the capillary vessels.

The orifice in his right arm was still sore and painful, but by restraining the motion of the arm, and keeping the lips of the wound in apposition, it soon healed. Notwithstanding, however, in a few days the arm, between the elbow and

shoulder became affected with tumefaction and stiffness, occupying, in an equal degree, the whole cylinder of the arm, which gradually went upwards, and fixed principally in the anterior part of the shoulder and armpit, and in these parts remained for about a month, with much pain and uneasiness, accompanied with typhoid fever, and great prostration of strength, without showing any tendency to terminate either in suppuration or resolution. The remedies, in the mean time, that were had recourse to, were hot fomentations, and poultices of vinegar and water to the swelled arm, leeches frequently applied to the anterior part of the shoulder, where the pain was most urgent; the same applications to the armpit and side, as the pain extended in these directions; and finally, a blister, which last seemed the only remedy that had any effect in inducing suppuration, and limiting the extent of the disease. At last two risings appeared in the axilla, at some distance from one another, which in a few days became elastic or fluctuating: when they were lanced, the lower one being opened first, the upper one immediately became flaccid, showing that they communicated; then it was also opened. The quantity of purulent matter that flowed out in a short time was immense, filling several teacups, besides what was lost in the bed. It evidently came from before and behind the pectoral, and latissimus dorsi muscles, as these felt spongy and elastic, or *boggy*, as you have very emphatically named it; besides, the swellings themselves, which were not large, could contain but a small quantity. The matter continued to flow for several days at the rate of two or three cup-fuls daily; then became less in quantity, less of a purulent nature, and finally serous, and gradually ceased. The parts affected for a long time remained stiff and unyielding; the emaciation of the individual was extreme, and he was long in recovering strength; and, in short, appeared as if he had come out of a typhous fever, but was finally restored to health and strength.

CASE V. *Arising from a Cut in the Flexor Muscles of the Thumb.*

June 26th, 1824.—ROBERT BROWN, aged 36 years, of spare habit of body, yet enjoying good health, a mill-spinner by profession; whilst occupied in breaking some wood with a hatchet, he unluckily cut the flexor muscles of his left thumb, in consequence of which considerable hemorrhage ensued. This was dressed after the rules of surgery.

A few days after, he felt the arm of the same side painful,

especially about the elbow-joint, on the inside of the insertion of the biceps muscle, increased on pressure or flexure of the arm; shortly after, he was affected with headache, pain of back, general weakness and fever, for which he was bled with considerable relief, and a purgative administered. The wound in the thumb healed in a few days; but the arm in the part before mentioned continued long painful, and became tumefied, the swelling occupying the whole cylinder of the arm, but did not spread higher than the top of the shoulder, at least not so far as the axilla. At last, after a month's duration, symptoms of fluctuation appeared at the inner side of the arm, near the elbow-joint, where it was lanced, and a great quantity of purulent matter flowed out, and continued to flow for several days. The matter could be pressed a considerable distance from under the skin, and from among the muscles of the arm towards the wound made by the lancet. The skin, previous to the formation of purulent matter, was in no manner discoloured, nor showed any symptoms of erysipelas, as strictly understood, namely, inflammation in the skin. There was no red line or trace of inflamed absorbents between the cut and the part in the arm originally attacked.

During all the time he suffered much pain and irritation, and was considerably reduced in flesh and strength; he however gradually recovered health, but was a long time in regaining his wonted appearance.

For the two following cases I am indebted to my friend Mr. Cunningham, under whose practice they occurred; and from whom, and the patients themselves, I obtained the history and treatment.

### Case VI. *Arising from Whitlow.*

December 25th, 1824.—Mrs. Gardner, aged 50, of sallow complexion, and of a nervous irritable habit, was seized with a sudden very severe pain in the ring-finger of the right hand, so much so as almost to cause her to cry out; to alleviate which, she was induced to plunge it into hot water, nearly at the boiling temperature, which had the effect of settling it somewhat for a time.

The pain however recurred, continued very severe, and in a day or two terminated in suppuration; it was opened, and was evidently a whitlow.

In the mean time, before the termination of the whitlow in suppuration, she was affected with violent pain in the axilla; and, at the same time, two red lines proceeding from the

inflamed finger, were observed creeping up the fore-arm, the one external, the other internal, which met or converged at the bend of the elbow-joint, afterwards run up on the inside of the biceps flexor cubiti, and terminated in the axilla. The pain here continued for four weeks, spreading forward over one half of the pectoralis, and backward and downwards over part of the latissimus dorsi muscle. The skin during this time was sound, and presented no appearance of inflammation; nor, as yet, was any fluctuation indicated underneath.

At last one of the glands in the axilla became enlarged and finally suppurated, when it was lanced, and about half a cup-ful of matter obtained. This was known to be a gland, from the hardness and compactness of its feel, roundness of form, and capability of being moved, as it were, in its situation.

The pain, however, continued in the breast, over the pectoralis and surrounding parts; and, after a deal of suffering, accompanied with fever, great irritability of system, and much emaciation, terminated in suppuration, and broke of its own accord at the outer and lower edge of the pectoralis, when an immense quantity of purulent matter flowed out, and continued to flow for nine weeks, and gradually ceased. The treatment consisted in the application of leeches to the pained parts, hot fomentations, anodynes, laxatives, and finally, poultices, when suppuration took place, with a more generous diet.

The duration of the complaint was about four months, but she afterwards got quite well. The arm, however, remained long stiff and considerably circumscribed in its motion, but in process of time its flexibility was restored.

We consider this as a case in which one of the glands of the axilla was affected, together with the cellular membrane, and therefore more complex in its character than the foregoing.

### Case VII. *Arising from Whitlow.*

March 1st, 1825.—Mrs. Reekie, aged 46, of sanguine temperament, and at the time in good health, works at the weaving trade, had an attack of whitlow in the right thumb, not remarkably severe, which in a few days suppurated and opened spontaneously.

Two days after the first attack in the thumb, she was seized with most severe pain in the anterior part of the shoulder and axilla, which took up her whole attention, and withdrew

it from that of the thumb. Soon after it spread over the breast anteriorly, as far as the sternum, and posteriorly completely to the spine, opposite the lower angles of the scapulæ; afterwards it crept down as far as the lower lumber vertebræ and posterior spinous process of the ilium, occupying apparently the whole pectoral muscle anteriorly, and nearly the whole extent of the latissimus dorsi of the right side. In these parts the pain continued unceasingly for about five weeks, deranging the whole system, and inducing much symptomatic fever of the typhoid type.

At last a large diffuse swelling with *boggy* fluctuation appeared in the axilla, and shortly after another above the posterior spine of the ilium; which latter having of its own accord broken first, an immense quantity of purulent matter rushed out; the upper one soon afterwards became flaccid, proving their direct communication, and indeed it never required to be opened, the whole matter taking the course of the inferior outlet.

Purulent matter in large quantities continued to flow for nearly a fortnight; afterwards it became serous, for nearly the same length of time, and gradually ceased.

The quantity of matter was so great, that to use the poor woman's expression, she wondered exceedingly how so much could proceed from so weakly a body, stating her belief that it could not be less than eight or ten quarts.

The treatment consisted entirely in the application of local remedies, viz. leeches, fomentations, blisters, poultices; and afterwards to sustain the system under so profuse a discharge, a more nutritious diet was enjoined, from which she speedily got well, her appetite having returned in more than an usual degree.

The duration of the complaint was about three months.

This was a case in which a greater extent of the cellular membrane was occupied by disease than any that has occurred in this neighbourhood.

### Case VIII. *Arising from Dissection.*

I shall merely mention in this place, that I had an opportunity in November last, along with Doctors Grace and Forbes, of seeing this disease in a professional gentleman who assisted at the dissection of a young woman who had died from peritoneal inflammation. But as this case has already been very well reported by his brother, who is also a medical gentleman, in your last Journal, I shall only state, that the outlines or symptoms of the complaint were similar to

those mentioned above, but particularly so to those recorded by yourself, as arising from dissection. He had a small abrasion of the cuticle upon one of his hands, which gave rise to an angry pimple. In the course of a few days he was seized with chilliness and fever, and after a little time with pain in the shoulder and axilla of the affected side, which in these places pertinaciously continued for more than a couple of months, and finally terminated in suppuration.

He, however, after the lapse of some time, got quite well, a stiffness in the motion of the arm only remaining.

The accompanying fever in this instance, had more of the typhoid character than the preceding cases, appeared more early, or nearly at the same time with the local affection; the brain was more implicated, and the depression of the system extreme; he had a great deal of morbid wakefulness, and was much troubled with phantasms.

There would appear to be in those cases arising from dissection, in addition to the usual irritating cause, the absorption of a poison, acting as a sedative on the nervous system, considerably aggravating all the symptoms, and inducing on the whole a much more dangerous disease.

The treatment employed was that for typhous fever conjoined with local remedies; which last appeared the most efficacious, as the symptomatic fever was in accordance with the local complaint, and advanced and retired with the changing condition of the latter; and at last when suppuration took place, it disappeared altogether.

I may mention here, that two other women who were employed about the same dissection, were seized with a similar affection, in one of whom it terminated fatally; and the other, after the lapse of many months, slowly recovered, suppuration having taken place to a great extent. But as these two last cases were under the guidance of a medical gentleman in the country, we will at present take no further notice of them, it being probable he may favour the profession with their history.

### Remarks.

It is impossible to peruse the foregoing cases, and those published by yourself in the Medico-Chirurgical Transactions of Edinburgh, without acknowledging that this peculiar, though hitherto neglected, but sometimes very fatal disease, has its origin from various sources of irritation, by some of which, indeed, it is induced in a much more exqui-

site degree than by others; but still the leading characters, or features, are the same, and evidently depending upon a like morbid action or process, and which, I think, you have with great truth referred to the cellular membrane, and to that almost exclusively.

It is difficult, in a satisfactory manner, to account for some of the phenomena of the disease, particularly the pain in the clavicular portion of the deltoid and axilla, when, very frequently, as in an inoculated finger from the virus of a dead body, no intervening link, or continuous chain of action, can be discovered between the part primarily affected, and that which latterly and peculiarly characterizes the disease. Neither are the subsequent effects in any proportion to the exciting cause, for sometimes the affection of the finger is so trifling as almost to escape notice. This perhaps can only be explained through the medium of the nervous system, or sympathy as it is called; as we know from various other instances, that irritation of a part, long continued, is capable of producing first pain, and afterwards real inflammation, in another part considerably distant from it; take, for example, irritation and pain of the stomach producing eruptions on the skin;—the well known instance of inflammation of certain parts of the liver causing pain of the shoulder;—worms in the intestines producing sometimes pneumonia, according to Morgagni, at other times inflammation of the brain. There are a few instances, however, in which it can be explained through the medium of the lymphatics, as in Case 6.; but in these we consider the affection as complicated; perhaps a gland or two will inflame and suppurate; but the extension of the disease to the cellular membrane, forms at last the most prominent feature, and the one demanding the most urgent attention. Indeed we consider, that possibly the glandular apparatus may be relieved by the communication of the morbid action to the cellular membrane.

The next particular object of inquiry, is to account for the diffusive character of the complaint. We know that phlegmon has its seat in the cellular membrane, but, from the effusion of coagulable lymph, a limit is set to its spreading at least to any extent. This also has its seat in the same membrane; but, from some peculiar circumstance, either acting locally or generally, the disposition to the effusion of lymph is deficient, and hence the spreading character of the complaint; and the extent of surface over which it proceeds is sometimes so great as to excite a particular sympathy in

the whole system, not unfrequently depressing the whole powers of life. Some might be inclined to ascribe this to the intensity of the local action overstepping the bounds which are favourable to the effusion of lymph; but we can hardly admit of this explanation, seeing that the intensity of action in phlegmon itself, and particularly in whitlow, appears to be fully as great, if not greater. We think, therefore, that it must be referred to some cause acting generally, depressing the nervous and vascular systems, probably below that point which is favourable to the effusion of coagulable lymph, and hence allowing of the spreading of the morbid action through a continuous membrane. That this appears to be a probable explanation, I think is in some measure apparent from the modes of treatment. Those local applications which excite inflammation in the skin, such as blisters and caustics, and by these means cause the effusion of lymph, and afterwards suppuration, seem the best remedies in limiting the extent of the disease; and if, along with these, we take into account the stimulating plan of Mr. Shaw, viz. as much wine and porter as the patient can bear, we would almost imagine that we had the doctrine confirmed.

But there are some objections even to this explanation. The individuals at the time of attack are sometimes in full health and vigour; the symptomatic fever, especially in the beginning, is frequently of considerable activity; the local affection always severe, and all evidently indicating depletion, and strict antiphlogistic measures. Yet still the disease, notwithstanding this high action, shall observe the diffusive character. This would induce us to refer it, as stated by yourself, to some unknown condition of the atmosphere, which disposes certain diseases to assume the epidemic form, such as scarlatina, small-pox, measles; and this view of the matter would appear to receive considerable sanction, from the circumstance of all the cases that I have seen having occurred within these few months, and many more, in the same district of country, were seen by others. I concur also with Mr. Wiseman, in stating, that during the prevalence of this disease, typhous fever, erysipelas, and rheumatism, were more common than usual, and not unfrequently fatal. This explanation of the cause, however, to those of a more philosophic cast of mind, may appear to be no solution at all, as they may assert, and perhaps justly, that it is only a roundabout way of declaring our entire ignorance of the matter. It is the only one, however, in our present imperfect state of knowledge, that we can offer on our part;

but those who have attended large hospitals, must have frequently seen diseases, and especially ulcers, much influenced by the weather; and who knows not, that a whole cellarage of ale and porter may be destroyed by a sultry or electric state of the atmosphere? and from the same cause also, butcher meat runs rapidly into putrefaction. Temperature, however, does not seem to have much effect, as the disease has occurred as frequently in winter as in summer; neither does the state of health of the individual appear to have any influence, as some of those who suffered from it, were at the time of attack in robust health.

On the subject of diagnosis we shall only say a few words, referring those, who are desirous of perusing a more elaborate investigation, to the Edinburgh Transactions. The two diseases with which it is most likely to be confounded, after the symptoms have been fully formed, are, erysipelas and typhous fever; from the first it is distinguished in all the pure cases, by some evident cause of irritation being previously applied—by the non-inflammation of the skin—by the swelling having a peculiar elastic or *boggy* feel—by the disease concentrating itself in the axilla of the affected limb and parts surrounding—and by its universal termination in suppuration;—not having heard or read of one instance in which the case, not being fatal, did not terminate in this way.

From typhous fever, it is distinguished by the febrile affection being symptomatic of a previously existing local action—by the fever corresponding in intensity to the intensity of the local affection, advancing as it advances, and diminishing as it subsides—by the brain being much less implicated, with the exception of those cases which arise from dissection—by its history—and by its non-contagious character. In those cases arising from dissection, the diagnosis is much more difficult; in general, it can only be made out from the history, by the fever being complicated with a violent local affection, and that being seated, as usual, in the axilla and surrounding parts of the affected extremities.

The treatment that I have found most successful, in those cases arising simply from irritation, when the individuals possessed tolerable strength, and when the affection, as yet, was confined to an extremity, has been, in the beginning, general blood-letting, sometimes repeated, according to the violence of the symptoms, followed by leeches and cold applications locally, with purgatives, in the hope of procuring resolution, which however, I must confess, I never was

able to effect. But as soon as the affection has reached the armpit and adjacent parts around, all attempts to procure resolution appear to be useless, as they merely retard, but do not prevent, its peculiar tendency to suppuration, and as a greater effort of the system to support the suppurative process is necessary than what is required for simply resolution, I desist then both from general and local depletion, unless circumstances are otherwise very urgent—applying heat and moisture to the affected parts, by means of fomentations and poultices, both as hot as they can be borne, with the intention of hastening the suppurative stage. When the affection shows much tendency to spread, I employ blisters, and sometimes apply caustic potass, with the view of exciting inflammation in the skin, and thereby limiting the diffusive character of the complaint, by the effusion of coagulable lymph; poultices to be again applied after these; and, as soon as possible, the parts to be opened by a lancet, or otherwise deeply scarified, even although matter should not yet be found, as the effusion of even serum is serviceable.

As a general evacuant, I gave an ounce of Epsom salts, with two grains of tartar emetic in eight ounces of water, half a wine glassful of which is taken every two hours, commencing from the very beginning; and this I find a most excellent remedy, not only in this but in most febrile and inflammatory complaints; it diminishes the force and frequency of the circulation, and, by the relaxation and evacuation it occasions, considerably reduces the temperature of the body, and seems to possess besides not a little of a sedative effect. When the irritability of the system is great, with morbid wakefulness, I give the tincture of opium, combined with the antimonial, and sometimes ipecacuan wine, a cooling nutritious diet being allowed all the time. When suppuration has taken place, I withdraw the antimonials, and give wine or porter, with as much food of easy digestion as they choose to take; and in general, though the convalescence be slow, in a few instances they have recovered rapidly. In the affection as arising from dissection, my experience is more limited, but I consider it a variety demanding peculiar treatment; and as evidently there is a poisonous ingredient acting as a sedative on the whole system, superadded to the usual cause of irritation, and threatening with extinction the life of the individual, I conceive that general and even local blood-letting would be less useful, and that the supporting, or stimulating plan, as successfully employed by Mr. Shaw, is more indicated. I would keep the patients, however, after

a calomel purge or two, on the antimonial remedy, as above prescribed, as steering a medium between the two; and as, in this instance, there is little connexion between the part primarily affected, and that which latterly and peculiarly distinguishes the complaint, when resolution appears to be out of the question, I would conduct the local treatment with the sole view of inducing suppuration, upon the event of which the life of the individual seems in a great measure to depend. In reference to nosological arrangement, as it is undoubtedly entitled to a place in every system of nosology, we would place this disease, or variety of inflammation, in the 7th genus of Cullen, and order Phlegmasiæ of his first class. He has marked the character of this genus (phlogosis) with "pyrexia, partis externæ rubor, calor et tensio dolens;" and divided it into two species, viz. "phlogosis phlegmone" and "phlogosis erythema;" the former he has defined as "phlogosis, rubore vivido, tumore circumscripto, in fastigium plerumque elevato, sæpe in apostema abeunte; dolore sæpe pulsatili;" the latter "phlogosis, colore rubicundo, pressione evanescente; ambitu inæquali, serpente; tumore vix evidente, in cuticulæ squamulas, in phlyctenas, vel vesiculas abeunte; dolore urente." We would subjoin this as a variety, after his first species, if not exalt it into a species itself, with this character,—"Phlogosis (phlegmone diffuso) colore raro rubicundo, tumore imprimis vix, postea satis evidente, sed diffuso et tactui resiliente, ambitu inæquali, plerumque in apostema, nonnunquam in sphacelum, abeunte, dolore pungente" —or, what would please us better, to erect it into a genus coming immediately after that of Phlegmon, in the class of symptomatic fevers, and order Phlegmasiæ of the system of Dr. Wilson Philip, with the change of the word "phlegmasiæ" instead of phlogosis, that he has, and I think with reason, suggested as an improvement upon the system of Cullen.—*Edin. Med. and Surg. Journ. Oct.* 1825.

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ART. VI. *Case of Congenital Hydrocephalus, in which the Operation of Puncturing was repeatedly performed.* By JAMES SYM, Kilmarnock.

IN April, 1822, I was called to visit an infant, of whose case, I received the following history: The midwife had remarked

at his birth, that his head was of an uncommonly diminutive size; and during the whole of his life he had been so fretful, that his mother was surprised he should continue to thrive, while he seemed to suffer almost constant uneasiness. He increased in bulk, however, and sucked with sufficient avidity, showing nothing peculiar in his appearance, and no symptoms of disease, till he was about six weeks of age. It was then observed that his head had become tumid at the fontanels, and he began to sleep worse than formerly, to take less nourishment, and to decline in his flesh. When I first saw him he was eleven weeks old, and I found his head exceedingly enlarged. Upon placing it in the direct rays of the sun, it was evidently diaphanous down to the temporal muscles, and water might be detected by distinct fluctuation throughout every part of it. There was nothing unhealthy in the appearance of his eyes; and although it was impossible to ascertain the degree of vision enjoyed by so young an infant, still he must have possessed the use of that sense to a certain extent, as he was always most readily appeased during night by lighting a candle in the room in which he lay.

I prescribed small blisters, and a gentle course of calomel, as much with the view of fulfilling the ordinary routine of practice, as from any feasible hopes of removing so large an accumulation of water by absorption. This course was persevered in for a fortnight, when the integuments covering the wide interstices between the bones, became so tense and thin, that I apprehended sloughing. His pulse too had become extremely small and rapid, his cry feeble, his body emaciated, and he rejected the breast.

I now scratched an opening with a lancet in the posterior fontanel, and six ounces of salt-tasted serum flowed from it, leaving the head so flaccid that it was found difficult, by means of lint and a bandage, to approximate the bones to a globular form. The child did not appear to suffer any inconvenience from the sudden removal of the fluid. He revived after the operation, slept well the succeeding night, sucked more greedily next day than he had done for several weeks previously, and his pulse became both fuller and slower. It was not long, however, till the water had again perceptibly accumulated, and he began to manifest the same distressing symptoms which had existed before the operation. These were again alleviated by removing the water, which was now done by a small trocar and canula; and in the course of three months, during which the child was under my care,

this was repeated five times, and 36 ounces of water withdrawn. The relief afforded by the operation was so obvious, that I was generally urged by his parents to perform it earlier than I felt disposed to do. At length the water ceased to accumulate about a fortnight after the last tapping; and within a week of the child's death, so much of it had been absorbed, that the scalp fell in between the parietal bones, forming a deep furrow. The secretion of urine was very remarkably diminished during this stage of the disease. The child was six months old when he died.

*Dissection.*—The dura mater adhered firmly to the bones of the cranium; and the thickened arachnoid membrane formed a large sac, containing 2½ lib. of limpid serum, and partially divided into two chambers by the falx. The cerebellum and pons varolii were of the natural size and appearance, as were also all the nerves which originate within the cranium; but in place of the cerebrum there was only a small, firm, flat mass, not larger than a garden bean, lying over the sella turcica. It was so much compressed, that it was quite impossible to recognize in it any parts corresponding to the structure of a healthy brain.

*Edin. Med. and Phys. Jour. Oct.* 1824.

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ART. VII. *Case of Purpura Hæmorrhagica, successfully treated with Spirit of Turpentine.* By JOSEPH JOY MAGEE, M. D. Senior Physician to the Dublin Sick Poor Institution.

THE following case of Purpura Hæmorrhagica in which the spirit of turpentine proved an effectual remedy, may not be uninteresting to the profession. I am induced to believe that this valuable medicine has not as yet received the attention, or been employed to the extent, particularly in Scotland and England, to which I am of opinion it is entitled. I have been in the habit of using it for some years past, and have always found it a safe and efficacious purgative, and a powerful auxiliary in the cure of some of the most formidable diseases. In obstinate constipation it stands without a rival. In enteritis, peritonitis, colic, and certain inflammatory or spasmodic affections of the abdominal viscera, it acts almost as a specific, and even in dysentery

I have seen the most decided advantage from its judicious exhibition. Indeed it was its efficacy in checking the hemorrhage in the last disease, as I had repeatedly experienced, that induced me to try it in the subjoined case. The dose I am in the habit of giving is, for an adult, half an ounce in conjunction with an equal quantity of *oleum ricini*, with a little peppermint or cinnamon water. I have not found it to answer so well if given otherwise. When given in a smaller dose it generally produces strangury or other unpleasant effects. The power it has of remaining in the stomach, even where there is a tendency to nausea, is remarkable. I have known it to remain even where opiate draughts have been rejected.

Mary Walsh, No. 63, Bridgefoot Street, an intelligent child of 6 years of age, had felt heavy and languid for the last six weeks, without however, complaining of particular indisposition. Two days ago an eruption of a dark purple colour began to appear on her arms, legs, and body. This day (8th of December, 1824) the whole of the skin, except the face, on which are only a few spots near the hairy scalp, is covered with these spots. The largest are about the size of a fleabite, from which they gradually diminish to a point. Some, which appear to be more recent, are of a florid appearance, exactly resembling the mark left by the bite of a flea. The child says she feels no pain or sickness, only general languor. The skin between the spot is of a dirty colour. The appetite remains unimpaired; bowels free; tongue clean; pulse regular.

℞ Submur. hydrargyri grana xii. Pulv. antimonialis gr. xvi. M. Divide in partes sex. Sumat i. tertiis horis.

9th.—Took all the powders; complains of sickness; some vomiting, not bilious; no appetite; tongue begins to be a little black; had no dejection; spots as before.

℞ Submur. hydrargyri. gr. xij. Pulv. scammonii ʒss. Zingiberis gr. iv. M. et divide in partes iij. Sumat. i. tertiis horis ad alvi solutionem.

10th.—Took all the powders yesterday; had three dejections "like tar;" some vomiting very black and bilious; tongue, except at the point, quite black; gums spongy; breath very fetid; bled a little this morning from the gums.

℞ Ol. Ricini, Spirit. Terebinth. āā. ʒij. Aquæ menth. pip. ℥ss. M. ft. haustus statim sumend.

11.—Had one dejection of natural appearance; the spots more numerous; large black spots, some as large as a half-crown piece, have appeared on the legs; considerable hæmor-

rhage from the gums; appears much emaciated; no appetite; mouth and fauces very sore, breath very fetid.

℞ Olei ricini. spirit. terebinth. āā. ʒiij. Aquæ menth. pip. ℥ss. M. ft. haustus stat. sum.

12th.—One natural dejection; spots as before; more *vibices;* great hemorrhage; tongue very black; mouth continues growing sorer; great discharge of saliva.

R Ol. ricini, Spt. Tereb. āā. ℥ss. Aquæ menth. pip. ℥ss. M. ft. haus. stat. sum.

13.—One dejection very black; much hemorrhage from the mouth; a large sloughing ulcer on one side of the fauces; gums very sore and disposed to bleed; the general appearance somewhat improved.

Repetatur haustus ut heri.

14.—Two copious melaenic dejections; spots begin to decline (9th day,) some hemorrhage; mouth very sore; breath fetid; tongue beginning to look clean about the edges; otherwise very black; the ulcer covered with a slough.

R Decoct. Cinchon ℥viij. Acid. sulph. dil. ʒi. M. pro gargarismate. Repetatur haustus ut heri.

15th.—Two copious melaenic dejections; spots more effaced; tongue cleaner; little hæmorrhage general appearances improved.

Cont. gargarisma et repet. haustus.

The draught was repeated on the 16th, 17th and 18th, with good effects, at which time the petechiæ and vibices had entirely disappeared. The only remaining symptoms are debility and soreness of the mouth, which is also rapidly getting better.

I have since had several cases of purpura which did not assume the hemorrhagic form, solely, I am persuaded, from the use of the turpentine.—*Edin. Med. and Phys. Jour. Oct.* 1825.

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## Art. VIII. *Essay on Hydrophobia.*

We are glad, on our present occasion, to be able to lay before our readers some new and important facts, relative to one of the most distressing diseases with which man can be affected. The prediction of Fothergill as to the discovery of a specific for the treatment of hydrophobia, is indeed not yet accomplished; and the treatment of the disease, when once developed, remains *in statu quo*, but the means for the prevention of the disease are so much improved, that

they can, in almost all cases, with the exception only of a few which we shall afterwards mention, be relied on with certainty. The wonderful qualities which are in general ascribed to new remedies, and the insufficient authority on which new plans of treatment are recommended to our notice, require us to be extremely cautious in pronouncing on their merits; but in the present case, the proposed mode of prophylactic treatment consists only in the precise application of means long known, and the conclusions as to its efficacy are not drawn from hasty and superficial observation, but from the extensive experience of a number of respectable individuals. Before we proceed to detail the mode of treatment so successfully tried in Germany and Switzerland, we shall make a few remarks on some of the remedies which have already been recommended for the prevention of hydrophobia, and show the uncertainty with which their action has been hitherto always attended.

Among the remedies recommended for the prevention of hydrophobia, *belladonna* holds a conspicuous place. More than forty years have elapsed since Münch recommended belladonna for this purpose, and since that time it has met with a very extensive trial. A requisite condition for the successful operation of this medicine, was careful washing and scarification of the wound inflicted by the rabid animal. According to Münch, large doses of the belladonna should be given, and Sauter assures us that in an adult he has given eighteen grains *pro dosi*, and Nord gave, within the space of twelve hours, a drachm, but without good effect. Brera, formerly physician in Crema, also employed this medicine in very large doses, but not with that success which he was at first led to expect. The opinions as to the efficacy of this remedy were of a very opposite nature, some considering that the disease might not only be prevented, but when once developed could be cured by it, whilst others denied its power in either case; to this last class belongs Hufeland, who had an opportunity of observing its inefficacy in several cases. Among the latest physicians who have strongly recommended this medicine, and who have tried it with good effect, is Massalien in Herrnhut; he has published his observations in the valuable journal of Horn* of Berlin, and therein states, that he never found the belladonna of service after the complaint had once developed itself, but that in several cases, amounting in the whole to about a hundred, he had tried it immediately after the bite of the animal with

* Horn's Archiv, Vol. II. p. 1.

the best success. The experience of other physicians did not coincide with that of Massalien, and the cases were to be found in every medical journal, showing the uncertain action of belladonna. Among others we find, in Horn's journal for 1815, (Part II. p. 322,) an account of a girl, thirteen years of age, who had been bitten by a mad dog. The wound was treated according to the directions recommended, and belladonna given internally, but hydrophobia broke out, and destroyed the girl in twenty-four hours. In the year 1820, a case was also observed by Dr. Jaenish in Malapaue, where the hydrophobia showed itself on the third day after the accident, notwithstanding that the wound was, from the earliest possible moment, washed and scarified, and large doses of belladonna were given internally. From a number of such unsuccessful cases, observed by different physicians, this medicine was found not to possess the powers ascribed to it by Münch and others.

The employment of *acids* in large doses has also been strongly recommended by several Italian physicians, particularly Previsati, Agliatelli, Anelli, Narcissi, and Brugnatelli, whose observations on this subject are to be found partly in the *Giornale di Fisica*, (November and December, 1821) edited by Configliacchi and Brugnatelli, and partly in *Harles's rheinischen Jahrbüchern*. Vol. VI. p. 1. The acids employed for the prevention of the hydrophobia, were the oxymuriatic acid, and good wine vinegar; but although tried very extensively, they were not found to possess their reputed virtues. Some time ago several persons died in the hospital at Milan of hydrophobia, who had been treated with chlorine both before and after the appearance of the complaint.

Marochetti's plan of treatment has, within the last three or four years, excited the attention of the whole profession in Europe. This physician observed, in the cases of hydrophobia which came under his notice, small bladders situated beneath the tongue; and, considering these to be a constant appearance in hydrophobia, he directed that they should be cauterized or punctured with a lancet. In Hufeland's Journal for March, 1824, (p. 13,) we find the particulars of this treatment detailed. According to Marochetti, the first thing to be done after a person has been bitten by a mad dog, or one supposed to be mad, is to observe the under surface of his tongue twice a day, for six weeks at least after the accident. If, during this time, the small bladders are not to be seen, then the patient may rest assured that the complaint will never develop itself; if, on the contrary, they should be discovered, they must be opened with a lancet

and then cauterized. The matter discharged from the bladder consists of a greenish lymph, which the patient must take care to spit out of the mouth. The surgeon should also protect the hand with which he holds the tongue, during the operation, with a handkerchief or towel. The patient must afterwards wash the mouth out with a decoction of broom tops (genista tinctoria) of which he must also drink a pint and half a-day for six weeks. Since the publication of Marochetti's Observations, medical men in most countries of Europe have directed their attention to the under surface of the tongue in hydrophobia, and have found that the appearance of the bladders is not a constant pathognomic sign. We are aware that, in several cases of hydrophobia, where these observations have been made, it has been stated, they were deferred too long, and not made sufficiently early. This we will not deny; but we also know, that in several cases of hydrophobic patients, where the tongue was most particularly noticed, the bladders were only observed in two persons. Last year, Dr. Xanthos of Siphnus sent a letter to Hufeland, in which considerable light is thrown on this subject. Dr. Xanthos states, that these bladders (*lysses*) have long been observed in Greece, and are generally seen towards the ninth day. Marochetti and some others conceive, that these small bladders contain a poisonous matter. The opinion of the most learned German physicians is opposed to this; for they think that the bladders which are ocasionally observed under the tongue, are the extreme terminations of the sublingual and submaxillary ducts, a theory which appears extremely probable. As to the decoction of broom, experience has long ago proved its inefficacy in the prevention or cure of the hydrophobia.

Quicksilver also holds a distinguished rank as a remedy in hydrophobia. It was recommended towards the end of the seventeenth, and the beginning of the eighteenth centuries by Taury* and by Ravelly,† as a preventive against the canine madness; and, after this Desault‡ advised the rubbing in of mercurial ointment as the safest possible means of preventing the bad consequences of bites from mad animals. Sauvages, James, Du Choisel, Tissot, Portal, Darluc, Rose, Van Swieten, and several other physicians, have not only strongly recommended it, but have also used it themselves with the best success. In later times, Dr. Selig and Königsdörfer,§

* Histoire de l'Academie des Sciences, Ann. 1699, No. 57.
† Histoire de la Societe, Royale de Medicine, 1713, 2 P. p. 137.
‡ Dissertation sur la Rage etc. Bordeaux, 1793, p. 296, 316, seq.
§ Altenburger Annalen der Heilkunde, 1812, p. 482, 521.

and, particularly, Professor Walther of Bonn,* have spoken in favour of the efficacy of quicksilver after the bite of rabid animals. Judging from analogy of the power of this medicine, and considering how beneficially it acts in all inflammatory affections of the air passages, we should expect to find it also useful in this complaint; but, unfortunately, there are too many cases on record, of persons, in whom the external wound has been improperly managed, dying of this complaint, notwithstanding the exhibition of large doses of mercury, to induce us to place much reliance in this remedy alone.

Cantharides have, since the remotest time, been employed both internally and externally, for the cure as well as the prevention of hydrophobia. They were known to the Arabians† as a remedy against the bite of mad dogs. In Hungary‡ they were also used at a very early period; and, in several authors, both old and modern, cantharides are alluded to as a remedy in hydrophobia. Werlhof,§ however, is the physician who has brought the cantharides into the greatest notice; and, after him several other physicians, as Wichman,‖ Bucholz,¶ Aepli, Vogel,** have employed this remedy with success. In the large hospital at Vienna, the cantharides are very frequently employed with excellent success; and, it is a striking fact that, during a period of more than 18 years,†† not a single patient has died of hydrophobia, who had been treated with cantharides prior to the appearance of the complaint. But our readers must recollect that, in this very institution, the external plan of treatment so successfully adopted at Zurich, Breslau and other places, was tried in several cases, together with this remedy. In a few, certainly, Rust assures us, that the wound was not properly treated; but when we recollect, that out of a given number bitten by animals, some will never be attacked by hydrophobia, let the treatment be what it may, it will perhaps not be unfair to place a few of these successful cases among that number which, without the cantharides or any other

* Abhandlungen aus den Gebiete der praktische Medicin. Landshut, 1810, p. 169, et seq.

† Rhazes, lib. xx.

‡ Ephem. Nat. Cur. Dec. I. Ann. I. Obs. 133.

§ Opera Omnia Pars III. p. 699.

‖ Tode's Med. Chir. Bibl. 7 Bd. I. St. S. 236.

¶ Rahn Gazette de Sante I. B. S. 236.

** Dissertatio de insigni venenorum quorumdam virtute medica, imprimis cantharidum ad morsum animalium rabidorum præstantia. Goett. 1762.

†† Rust's Magazin, Vol. I. p. 143.

remedy, would have escaped the complaint. We believe, it cannot be denied, that cantharides is a valuable auxiliary, and that it may have, in a few cases, been employed alone with success, but unless the wound be at the same time properly treated, unless suppuration be excited, and kept up for the space of six weeks at least in the bitten part, this remedy will be found equally inefficacious as the others which we have mentioned.

We now come lastly, to the mode of prophylactic treatment, with which the English surgeon or physician is perhaps, better acquainted than any other, we mean the excision of the wounded part. Several medical men, among whom are Tissot, Nicholai, Bouteille, Metzler, Bell, Loftie, Dupau, John Hunter, Jesse Foot, Callisen, Fothergill, &c. &c., have all spoken of the efficacy of this plan of treatment. Dr. Parr, the author of the Medical Dictionary, mentions also in his work, that the excision of the wound is the safest preventive against hydrophobia. Rust, also, in the volume before us, relates several cases observed by others, where this treatment was found successful, and one which came under his own notice where the wound was excised *thirty-one* days after the accident, and after the hydrophobic symptoms had manifested themselves, and where the patient still was saved. In the *Petersburg Medical Transactions*, Vol. I. p. 170, Dr. Harder relates a case, where five months after the bite, and eight weeks after the excision of the wound, hydrophobia began to show itself, but by another excision, and then cauterization, of the part the child was saved. Two weeks after this there was observed in the bottom of the wound, a pale and extremely painful excrescence, and the constitutional symptoms returned; but by careful excision and cauterization of the excrescence with the nitrate of silver, a quick and permanent recovery followed. That, in several cases, excision of the wound alone has been sufficient to prevent the return of hydrophobia all must allow, but on the contrary let any one peruse the medical journals of this country, and see how far more numerous are the cases in which hydrophobia has appeared after this treatment had been adopted.

We have thus alluded to a few of the principal remedies which have been recommended for the cure and prevention of hydrophobia; we say a few only, for we believe that Plouquet, in his *Literatura Medica Digesta*, enumerates more than a hundred and fifty, but no single one among them has yet been found sufficient of itself in every case to prevent or cure the disease. We will now proceed to lay before our readers an account of the treatment which has been so successfully

adopted in Germany, and if subsequent experience should confirm the results which have been hitherto obtained from it, we think that we shall possess as sure a preventive against hydrophobia as we at present do in vaccination against the small pox. The treatment pursued at Zurich, and its results, we shall endeavour to insert in another part of this Number. It consists of deep scarifications of the wound, the besmearing of it with *pulvis lyttæ*, application of a blister to the part, the keeping up of a discharge from the wound and the blister during six weeks, and the rubbing in of mercurial ointment till symptoms of approaching salivation came on; internally belladonna or calomel were given. The account of the treatment introduced by Dr. Kruttge, in 1797, into the hospital at Breslau, is thus related by Dr. Wendt.

"As soon as a patient is brought into the hospital bitten by a dog or any other animal supposed to be mad, the wounds are washed clean from all coagula of blood, with a sponge* dipped in warm water; the edges of the wounds are then to be separated with the fingers from each other, and powdered cantharides are to be sprinkled over the bottom of the wound; into the little *fossæ* produced by the teeth of the animal, the powder is always to be pressed down over the wound; a blister is applied of such a size that it may extend at least half an inch in every direction beyond the edges of the wound. Then the patient is ordered calomel, in doses according to his age and constitution, every three hours, and the medicine is also continued during the night-time. Besides this, the patient rubs in, mornings and evenings, from a scruple to half a drachm of mercurial ointment, first over the wound, when it is situated in a convenient place, and then on the different extremities one after another.

"If the blister has raised any vesicles, they are snipped, and the cuticle is completely cut away with the scissors; the powdered cantharides is about the same time removed from the wound; and, according as the wound is deep or superficial, it is either dressed with fresh cantharidies, or only with the *unguentum cantharidum;* with which ointment the wound produced by the blister is also to be kept open. This dressing, which produces great irritation, and soon after, a copious suppuration, is modified according to the peculiarity of the patient's constitution, and his greater or less susceptibility; it must be changed twice a day, *and the discharge from the*

* Dr. Wendt states, that the sponge which is used on such occasions is burnt immediately after.

*wound or wounds must be kept up during the space of six weeks.* The patient is to continue the use of the calomel and mercurial friction, not only till salivation comes on, but till small mercurial ulcers are to be seen on the tongue and gums, and the person spits a pint of saliva a day. As soon as the patient gets into this state, the rubbing in of the ointment is discontinued, and only sufficient calomel given to keep up a slight salivation till the end of the cure.

"If during the cure it is ascertained that the dog by which the patient was bitten was not mad, and when an official certificate to that effect is sent to the hospital by the *Stadt-physicat*, the further employment of the mercury is discontinued, and the treatment exclusively directed to the external wound, which is then kept in a state of suppuration during thirty days only. If the dog, however, has been killed, as is very often the case, or nothing certain has been learnt of the state of the animal, then the person bitten is treated according to the mode laid down above during the space of six weeks at least; and after the expiration of this time, a little before the wound is quite healed over, an issue* of the size of a pea is applied either on the arm or leg, and directed, on the patient leaving the hospital, to be kept open for a year." Wendt, p. 45.

Dr. Wendt adds a list of the persons admitted into the Breslau Hospital from the year 1810 to 1824, bitten by dogs. The number of these altogether amounted to 184, of whom half were bitten by dogs absolutely mad, or supposed to be mad. From the whole two only died. The only point to which we object in the above treatment, is the large quantity of mercury exhibited, an error into which the Germans too often fall. The results of the treatment at Zurich show, that the exhibition of this medicine in such large doses is not at all necessary. Rust's mode of prophylactic treatment does not essentially differ from that adopted at Zurich and Breslau. He prefers excision of the wound to scarification, because he thinks that in the latter mode, if a poison really exists in the parts, it will penetrate deeper into the flesh, and be more difficultly destroyed. We are inclined ourselves to give the preference to excision, although experience shows, that, with scarification or excision, the case will generally terminate well, provided the suppuration be kept up the proper length of time. Rust also uses the *potassa fusa*, and the red pre-

* Issues have only made a part of the treatment since 1815, when they were recommended by Hufeland, in the July Number of his Journal for that year.

cipitate, for promoting a discharge, more frequently than the other physicians. Dr. Luthoritz differs in a few minor points of treatment from that adopted by Rust and the others; but in the essential point, the keeping up of a suppuration, he entirely agrees.

The treatment we would recommend to be adopted is the excision of the wound, the application of the *potassa fusa*, cantharides, or red precipitate, to excite a discharge; a small blister to the part, and the keeping up a discharge from it and the wound during the space of six weeks at least. Internally calomel should be given till symptoms of salivation show themselves. If, however, the use of mercury is in any way contra-indicated, we would recommend the belladonna or cantharides to be given, the first till symptoms of narcosis, the second till those of strangury are observed; the doses must of course be regulated according to the age and constitution of the patient. If the wounded part should be so situated that the whole of the parts cannot be excised, then we must trust to scarification or the actual cautery. The objection to the actual cautery, in most cases, is the greater degree of pain with which it is attended than the knife, and the slowness with which the slough is thrown off. We must here state, that all those caustics are objectionable in this complaint, from the application of which the slough is so tardily thrown off, and particularly the nitrate of silver. The slough produced by this caustic comes away with difficulty, and the process of suppuration is longer retarded by it than any other caustic. Whatever may be the internal treatment, the external wound must, in order to insure success, be kept in a state of suppuration. We are aware that in some cases this treatment may fail, but we think only in those cases where the wound is so situated that the application cannot be properly employed. A good deal of the success of this treatment must depend on the patients themselves applying before any symptoms of the hydrophobia have occurred. If any, however slight, have manifested themselves, then we fear there is little chance of preventing the full development of the disease. The necessity, therefore cannot be too strongly impressed upon the minds of the community, of losing no time in applying for medical relief after the bite of a rabid animal; and, on the other hand, the profession cannot be too earnestly entreated to give the treatment which we have recommeded a fair and impartial trial. Even if the patient has been bitten by a dog, or any other animal not in a rabid state, we should advise the sup-

puration of the wound being maintained for three or four weeks, as was done at Breslau, since there are several well authenticated cases on record* of persons being attacked with hydrophobia who had been bitten by dogs free from all symptoms of madness or any other disease.

We have, in the present article, confined ourselves to the prophylactic mode of treatment, and have omitted saying any thing on the treatment of hydrophobia when once developed, as we are in possession of no new facts by which it has been improved. There is one plan, however, of modern suggestion, to which we will briefly allude, we mean the injection of warm water into the veins, as suggested by Magendie. Without wishing in the least to discourage any attempt to improve the treatment of hydrophobia, we must state our own conviction to be, that we expect little or no benefit will be derived from Magendie's mode. The injection of warm water into the veins appears to be recommended on the supposition that the dread of water forms a part of the disease commonly called hydrophobia, whereas it is only a secondary affection, a symptom of the diseased state of the different parts about the neck. Mead relates three cases† of rabies canina which came under the care of a physician in Shropshire, in neither of which hydrophobia or the dread of water was present. The patients died about the usual time, from thirty to forty days after the accident, with symptoms of affections of the chest, palpitation of the heart, spasms, delirium, &c. but neither of them manifested any aversion to water. And Mead, on account of the dread of water not always existing in this disease, was induced to call the disease Dyscataposis (difficult swallowing of fluids,) instead of Hydrophobia. The dread of water is certainly neither in man attacked with rabies canina, nor in mad dogs, of itself a pathognomic sign, but rather a symptom of the affection of the parts about the neck. Mad dogs also, in the majority of cases, have no fear of water whatever. The injection of warm water into the veins has been tried by Magendie and Gaspard in St. Etienne, and once or twice in our own country, but in neither case with success. We certainly expect more beneficial results from the injection of narcotics into the veins, as proposed by Dr. R. Pearson,‡

* Rust's Magazin.

† Mechanical Account of Poisons, in several Essays, 1747, p. 147 and 151.

‡ Edinburgh Medical Journal, vol. xvi. p. 158.

and practised by Dr. Brandreth of Liverpool,* although the success even of this mode appears very dubious.

*Edin. Med. and Phys. Journ. Oct.* 1825.

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ART. IX. *Case of Gravel cured with Cider.* By FRANCIS O. DOUCET, M. D. of the city of New York.

F. E. aged 29 years, of florid complexion and robust constitution, by profession a jeweller, arrived at New York from Brazil, in April, 1824, after a passage of 52 days. On the passage was attacked with dysentery, attended with colic, spasm, and tenesmus, after five days it degenerated into diarrhœa; evacuations frequent and copious, without pain; he landed, however, in perfect good health.

Between four and five weeks after his arrival in New York, he experienced the same pains that he had suffered on his passage, besides a painful sensation in the lumbar regions, with spasmodic movements, a numbness in the right inferior extremity, and a retraction of the right ventricle. All the pains seemed to terminate in the right thigh; the paroxysm lasted from six, seven, eight, nine, to ten days, then ceased and returned in two, three, four, or five weeks.

Five months after his arrival, he passed much gravel; when I saw him, the 25th of July, 1825, he had passed none for three months; he attributed this to the use of tar water, which he drank in large quantities. The pains, however, were then violent and he evacuated, per anum, a thick glairy matter with mucous; after which he experienced considerable relief. I promoted these evacuations with aperient medicines, and enemas of muriate of soda dissolved in water. He experienced equal relief, also, by this treatment, and discharged from his bowels quantities of calcareous matter, and the gravel returned upon him.

I consulted my friend Dr. Baxter, who had no doubt that this was purely a case of gravel, and we determined on the treatment from the analysis of the matters discharged.

After I had signified to the patient the plan of treatment agreed upon, he procured a paper from Albany, which mentioned a case of gravel cured by the use of new cider. I had no objection to his making use of it. He drank nearly

* Edinburgh Medical Journal, January 1825, p. 78.

one gallon in twenty-four hours, since the 10th of August, and has not since been attacked with the complaint, nor been detained from his business.

REMARKS.

In a treatise on urinary calculi reported in the Medico-Chirurgical Transactions, Vol. IX., Dr. Hutchinson says, that it is generally believed, that acids and the acescent fluids, such as cider, malt liquors, and French wines, favour the generation of lithic gravel.

Mr. Magendie, in his Physiological and Medical Researches, has seen cases in which the patient had been for many years tormented by gravel, entirely cured by a sugar diet alone. However, this cannot be long persisted in, as it disagrees with the stomach.

Mr. Pinel says, that alkaline drinks, in large quantities, have been advised in cases where the calculi are composed of uric acid, or urate of ammonia. And the use of acidulated liquors, particularly muriatic acid, when the calculi were composed of phosphate of lime, ammoniaco-magnesian phosphate, or oxalate of lime.* But if this be recommended with the expectation of decomposition upon chemical principles, their affinities would counteract it, as these bases, except ammonia, unite easier with the oxalic and phosphoric acids, than the muriatic acid.

Mr. Selle, *Medicine Clinique*, says, that one of the indications of cure in gravel should be, to increase the quantity of urine by large quantities of drink, provided no alcoholic liquors enter its composition.

Magendie attributes the freedom from gravel the Indians enjoy, to their living on vegetable food. Among those I have been, in the west, where they are very numerous, and have never seen a case of gravel, nor heard of one. They, however, seldom eat vegetables, but live almost entirely on the flesh of the animals they kill. It is, therefore, more probable, that the great exercise and the quantity of water they drink, keep them free from it.

But what has been the modus operandi of the cider in this case? The matter discharged from the bowels, was a carbonate effervesced on the addition of the mineral acids. The gravel did not effervesce with these acids, and the nitric and muriatic produced no effect. But on throwing it into dilute sulphuric acid, a fine powder was precipitated. On throwing

* Nosographie Philosophique, Vol. III. p. 561.

it into a solution of pure potash, no effect was perceived; but on the addition of sulphuric acid, an effervescence took place.

The fine sand the patient discharged was white, until five days after taking the cider, when it became, and is now, a fine black dust.

In what manner then has the cider effected a cure of this man's symptoms, and so completely altered the matter discharged?

Is it the chemical agency of the malic acid on component parts of the gravel—or the saccharine matter contained in the cider—or the quantity of it drank—or does those three qualities concur conjointly to that effect?

Since, however, the affinity of the malic acid for lime is less than that of many other acids, especially the oxalic and phosphoric, and we must suppose the gravel discharged was a phosphate of lime, we cannot suppose this medicine to have acted on chemical principles. We are left then, to attribute the cure to the agency of the others.

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ART. X. *Further Experiments on the Case of Alexis San Martin, who was Wounded in the Stomach by a load of duck-shot, detailed in the Recorder for Jan.* 1825. By WILLIAM BEAUMONT, M. D. Fort Niagara.

*Experiment* 1*st.*

On the 1st of August, 1825, at 12 o'clock M. I introduced, through the perforation between the ribs, into the stomach of *Alexis San Martin*, the following articles of diet, suspended by a silk string, and fastened at proper distances from each other, so as to pass in without giving pain—to wit: a piece of high-seasoned *alamode beef*, a piece of raw *salted lean beef*, a piece of raw salted *fat pork*, a piece of raw lean *fresh beef*, a piece of boiled *corned beef*, a piece of *stale bread*, and a bunch of *raw cabbage*, each piece containing about two drachms. The lad continued his usual domestic employments about the house.

1 o'clock P. M.—Withdrew and examined them—found the *cabbage* and *bread* about half digested; the pieces of meat unchanged. Returned them into the stomach.

2 o'clock P. M.—Withdrew them—found the *cabbage*,

*bread*, *pork* and *boiled beef* all cleanly digested and gone from the string; the other pieces of meat but very little affected. Returned them into the stomach again.

3 o'clock P. M.—Withdrew them—found the *alamode* partly digested, and the *raw beef* slightly macerated on the surface, but its general texture firm and entire. The fluids of the stomach smell and taste slightly rancid. Lad complains of some pain and uneasiness at the breast. Returned them again.

5 o'clock P. M.—The lad complains of considerable distress at the stomach, general debility and lassitude, and some pain in the head. Withdrew them—found all the remaining pieces of meat much in the same condition as when last drawn out; the fluids more rancid and sharp. The boy complaining considerably, I did not return them any more.

August 2d.—The lad complaining of nausea, pain in the head, and costiveness, accompanied with a depressed pulse, dry skin, coated tongue, and numerous small white spots or pustules, resembling coagulated lymph, spread over the inner surface of the stomach, I thought advisable to give medicine, and accordingly dropt in, through the wound, half a dozen calomel pills, four or five grains each, which in about three hours had a thorough cathartic effect, and removed all the foregoing symptoms and the appearance upon the inner coat of the stomach. The effect of the medicine was the same as when administered in the usual way, by the œsophagus, except the nausea commonly occasioned by swallowing pills.

*Experiment 2d.*

11 o'clock A. M. August 7th.—After having kept the boy fasting seventeen hours, I introduced the glass tube taken from the plate of a thermometer (Kendall's) through the perforation into the stomach, nearly the whole length of the stem, to ascertain the degrees of natural warmth of the system; in five minutes, or less, the mercury rose to 100°, and then remained stationary, (which I determined by marking the heighth of the mercury upon the glass with ink, as it stood in the stomach, and then withdrawing and placing it upon the graduated plate again.)

I then introduced a gum-elastic syphon, and drew off an ounce of pure gastric liquor, unmixed with any other matter, into a three-ounce phial; took a piece of *corned boiled beef*, large as my little finger, and put it into the liquor in the phial; corked it tight and placed it in a saucepan filled with water, raised precisely to 100°, and kept it at that point by

placing it in a gentle and nicely regulated sand-bath. In forty minutes digestion had distinctly commenced over the surface of the meat; at fifty the fluid became quite opake and cloudy, the external texture began to separate and become loose; at sixty minutes chyme began to form; at one o'clock P. M. (digestion having progressed with the same regularity as in the last half hour) the cellular texture seemed to be entirely destroyed, leaving the muscular fibres loose and unconnected, floating about in small fine shreds, very tender and soft.

At 3 o'clock P. M. the muscular fibres had diminished one half from one o'clock.

At 5 o'clock P. M. nearly all digested, a few fibres only remaining.

At 7 o'clock P. M. its texture was completely broken down, and very few of the small particles only floating in the fluid.

At 9 o'clock P. M. every particle of the meat completely and perfectly digested.

The gastric fluid, which, when taken from the stomach, was clear and almost transparent as water, was at this time about the colour of whey, and after standing at rest a few minutes, a fine sediment, the colour of the meat, precipitated to the bottom of the phial.

*Experiment 3d.*

11 o'clock A. M. August 7th, (the same time that I commenced the second experiment,) I suspended a piece of meat exactly similar to that put into the phial, into the stomach, through the wound.

12 o'clock M.—Withdrew and found it just about as much affected by digestion as that in the phial; little or no difference in their appearance. Returned it again into the stomach.

1 o'clock P. M.—Withdrew the *string*, but found the meat completely digested and gone. The effect of the gastric fluid upon the piece of meat suspended in the stomach was exactly similar to that in the phial, only more rapid after the first hour, and sooner completed. Digestion commenced and was confined to the surface entirely in both situations. Agitation accelerated the solution in the phial, as it removed the coat that was digested upon the surface, and enveloped the remainder of the meat, and gave the gastric fluid access to the undigested portions.

*Experiment 4th.*

August 8th.—9 o'clock A. M.—Drew off 1½ ounce of gastric liquor into a three-ounce phial, and suspended two pieces of boiled chicken, from the breast and back, and placed it in the same situation and temperature as in the second experiment, observing the same regularity and minuteness.

Digestion commenced and progressed much the same as in the foregoing experiments, only rather slower, the fowl appearing to be more difficult of digestion than the flesh, the texture of the chicken being firmer than the beef, the gastric juice seemed not to insinuate itself into the interstices of the muscular fibres as it did into the beef, but operated entirely upon the surface, dissolving it as a piece of gum-arabic wastes in the mouth, until the last particle was digested.

The colour of the fluid, after digesting the chicken-meat, was of a grayish-white, and more resembling milky fluid than *whey*, as in the experiment of beef in the phial, and the sediment was lighter coloured; but in other respects every way similar. The contents of both phials, kept perfectly tight, remained free from any fœtor, acidity, or offensive smell or taste, from the time it was taken out of the stomach (7th and 8th of August) to the 6th of September, at which time that containing the boiled beef became very offensive and putrid, while that containing the chicken was perfectly bland and sweet. Both were kept in exactly similar situations.

The foregoing are given, as nearly as I have ability to observe and language to express, exactly as they occured, and such as they be, I submit them for consideration, &c.

The man absconded to Canada, and it is to be regretted that the experiments have, on that account, been suspended.

Fort Niagara, (N. Y.) Nov. 1825.

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## Art. XI. *A Chronic Spasmodic Affection of the Bowels.*

By Richard Emmons, Great Crossings, (Ken.)

The case which I am about to communicate to you, has been to me a source of anxious perplexity, for more than a year past. Having, at length, overcome the disease, I, perhaps, cannot employ an hour or two to a more laudable pur-

pose, than that of submitting to your consideration its history, and the remedies made use of to remove it.

In August, 1824, John, a likely mulatto man, aged twenty-four, the property of E. P. Johnson, came to me with a sick stomach, accompanied with pain in the bowels. Believing it produced by the intemperate use of whiskey—or from acrimonious matter collected in the stomach, I gave him an emetic. Complaining the next day, I followed up the emetic with a dose of calomel. These medicines operating well, and my patient not improving agreeable to my expectations, I was led to make a more particular inquiry concerning the disease. He now informed me that he had had the affection ever since April. That while ploughing in the field, the pain struck him suddenly, low down in the bowels (placing his hand near the os pubis,) darting as if it were alive, upwards to his stomach. The pain was so severe as to throw him into a cold sweat. A distressing spasmodic vomiting supervened, succeeded by a tormenting headache. This paroxysm lasted about an hour, and then he arose and proceeded to his usual labour. He now escaped for a day or two, when the complaint again surprised him and brought him to the earth. He was visited by the disease in this manner until August, when his master sent him to me for medical aid. His appetite was invariably good during the intervals. He never had any fever. His bowels, however, were generally in a state of costiveness. He was cheerful, active, and appeared as though nothing affected him: yet he was daily attended with the disease; still, during the intervals, he was willing, and seemed able, to do light work. I found that cabbage in particular, and most other vegetables disagreed with him, often producing an immediate fit of the colic in all its severity. Common corn bread, bacon, meats of any kind, salt fish, soup, clabber, butter-milk, invariably sat well upon his stomach. Sometimes, indeed, when he had notice of the disease returning, a few mouthfuls of meat and bread would prevent it altogether.

Finding his pulse somewhat full, I bled him, and administered another emetic; and, as a quantity of bile was discharged, I repeated it two or three times during the week. These not producing the desired effect, I next tried the purgative plan, giving him a cathartic daily, of salts, rhei, calomel; every other dose being calomel. The disease yielded not to this treatment, though it would frequently fail to attack him for a day or two at a time; but while he was boasting that he was well he would cry out with the

torture of its return. I gave him pills of opium, camphor, and assafetida; applied tobacco moistened with vinegar, to his abdomen; blistered him; gave him worm-seed oil; carbonate of iron in large doses; charcoal, bark, &c. keeping the bowels moderately open with about a half a dose of salts daily. I strongly suspected worms. The complaint, however, bid defiance to all these remedies.

Being called to him in a severe paroxysm, it was my duty to prescribe something. I thought of the oil of turpentine. I administered a drachm. It produced immediate relief! I now felicitated myself that I had at length hit upon a medicine that would overcome the disease. But this remedy failed me in about four weeks, though once or twice I gave it in ounce doses. One or two worms only were expelled.

In April last, he had recourse to an empiric, who did him much harm.

Mr. Johnson once more desired me to take him in hand, especially after I informed him, that there was one remedy which I desired to make a trial of. This remedy was the nitro-muriatic acid. I had given him, while trying other things, a portion or two of it; but omitted it, owing to his reluctance to take it, saying that he had rather die, than swallow any more of it. He now, however, consented to any thing. I began with ten drops, three times a-day, increasing the dose to thirty, or forty. My patient, on the second day after taking it, had a paroxysm of considerable severity. You may well suppose that I began to despair. But that was the last of the disease! I persevered in the remedy. The acid acted as a powerful diuretic, and in about two weeks, produced a copious salivation. I continued the medicine fifty days, during which time, it kept the bowels in great regularity without the aid of any laxative.

He has now been at daily labour about six weeks, and appears completely restored without the least vestige of the complaint remaining.

The most probable remote cause was cold, by exposure during the winter, and month of March, 1824.

I considered the disease a spasmodic affection of the bowels—the proximate cause of which, I supposed to have been a weakness of the animal fibre, and, that the acid acting as a tonic, removed this weakness and consequently, the disease. But this is theory—the fact is certain.

ART. XII. *Case of Chorea.* By Dr. JOHN WHARTON, of Culpeper County, Virginia.

IN the following remarks, I have only followed the footsteps of others; and have successfully established the practice at first suggested by the celebrated Jenner, a name too well known to call forth the feeble efforts of my pen in the way of eulogium. In the fifth volume of the Recorder, (p. 684,) will be found his letter to Dr. Parry. And in volume eighth of the same work, there are some observations by Robert Hunter, Surgeon, and Lecturer on Anatomy and Surgery, Glasgow, on the cure of Rotatio or Chorea. The singular good fortune attending Mr. Hunter's plan, led me more immediately to the treatment of the following case.

About the fifteenth of September last, I was called to a coloured child about six years old, of uncommon sprightliness; upon my arrival, notwithstanding its age, this disease rarely occurring before the tenth year, I did not hesitate to pronounce it a decided case of chorea, and immediately directed the head to be completely shorn, and the following ointment to be rubbed on two or three times a-day.

R. Tart. Ant. ʒ.
Axung. Porcin. ℥ʒ. M. ft. Unguent.

About twenty-four hours after the first application, a most plentiful crop of pustules appeared, filled with a yellowish fluid. As there was much symptomatic fever present, and considerable swelling of the head and face, I directed the ointment to be discontinued for a few days. On my next visit, I found every symptom of chorea entirely removed. During this case, only one ounce of the ointment was used, and the completion did not occupy more than ten days or a fortnight.

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ART. XIII. *Some experiments and remarks on several species and varieties of Cinchona Bark.* By GEORGE W. CARPENTER, Philadelphia.

In consequence of the prevailing endemic, ague and intermittent fevers, which of late years have been so univer-

sally felt, in almost every section of our country, the article *cinchona* has increased very considerably in practice and demand, and has become one of the most important articles of the materia medica; and as the descriptions of the several species and varieties are so obscure, ambiguous, and confused, that they tend rather to involve the research in more dense prolixity than to develop their concealed information, and as there is no method so well calculated to ascertain the comparative activity of the different species of Peruvian Bark as that of analysis, I have thought proper to make trial of the most important species which now occur in our commerce, by extracting the alkaline principle upon which its virtue as a medicine entirely depends, and upon the product of which the comparative strength may be accurately ascertained.

It is greatly to be regretted that many of our country practitioners so little appreciate the quality of bark, but are entirely governed by the price, which from the following statement, will appear to be the most erroneous calculation, for it not only requires the patient to swallow twelve times the quantity equally nauseous to produce the same effect, but also, by the introduction of so large a portion of ligneous and insoluble matter into the stomach, lays the foundation of diseases more to be dreaded than those for which it was administered as a remedy.

### *Calisaya Bark.*

Of this very superior species of Peruvian Bark there are two varieties in commerce:

#### 1st. *Calisaya Arrollenda.*

This variety is in quills from three quarters of an inch to an inch and a half in diameter, and from eight inches to a foot and a half in length. The epidermis is gray and whitish on the exterior, and of a reddish brown beneath. The peculiar features of this bark, and by which it may be readily distinguished, are the following. The epidermis is thick and may be easily removed from the bark: hence you find in the seroons, in which it generally comes, the greatest part deprived of this inert portion. It has many deep transverse fissures running parallel; the fracture is woody and shining; the interior layer is fibrous, and of a yellow colour; the taste is slightly astringent and very bitter.

This species of bark will yield a much larger proportion

of *quinine* than any other bark in commerce, and consequently may justly be esteemed the best.

2d. *Calisaya Plancha* or *Flat Calisaya.*

This variety consists of flat, thick, woody pieces, of a reddish brown colour, deprived of the epidermis, and the interior layer more fibrous than in the quill. This variety yields from twenty to twenty-five per cent. less *quinine* (or active principle,) than the former, and consequently is a less desirable article.

*Superior Loxa or Crown Bark.*

Loxa is the name of the province and port of Peru where this bark is obtained, and from whence it is exported. It was in this province *cinchona* was originally discovered. This bark is highly esteemed by the royal family, and is that species which has been selected for their use; hence the name of *crown-bark.* This bark is in small quills, the longitudinal edges folding in upon themselves, forming a tube about the circumference of a goose quill, and from half a foot to a foot and more in length. It is of a grayish colour on the exterior, covered with small transverse fissures or cracks; the internal surface is smooth and of an orange red; it is of a compact texture, and breaks with a short clear fracture; it is known at Loxa by the name of *Cascarilla fina.* Notwithstanding this bark appears to have had the decided preferance to all other species, yet analysis fully indicates that it is not equal in medicinal strength to the *Calisaya.*

This species yields from twenty-five to thirty per cent. less quinine than the former, the crystals of which are not so well characterized.

Experiments which I made upon the Carthagena Bark, of rather better quality than the market generally produces, yielded about one twelfth the quantity of the *Calisaya Arrollenda.*

REMARKS.

When the Calisaya bark was first introduced here, it was considered an inferior article, and would not bring its cost in South America; but such was the deception of external characters, that when quinine began to be manufactured in this city, and it submitted to the infallible test of experiment, it was proven to be the best. Specimens of the Ca-

lisaya and Loxa barks may be procured from Charles Marshall, Druggist, of this city.

GEORGE W. CARPENTER.

I have obtained the sulphate of rhubarb by a process somewhat different from A. Nani, which shall appear in your next Journal.

G. W. C.

October 29, 1825.

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The following series of essays by our valuable correspondent, Dr. Jameson, of Baltimore, will be received by the subscribers to this Journal, with the interest naturally inspired by the subject, and by the great reputation, skill, and experience of their author. The preliminary remarks published in this number, contain introductory views preparatory to the opening of the subject, with some critical discussion on the work of Mr. Allan Burns The remaining essays will furnish the readers of this Journal, with all that has been elicited by the experience of modern times, improved and matured by our highly gifted contributor.

ART. XIV. *Introduction to a series of Essays on the Surgery applicable to the Neck and Face, arranged under the heads of Surgical Anatomy, Operative Surgery, and Medical Surgery, the whole relating particularly to those parts.* By HORATIO G. JAMESON, M.D. Surgeon to the Baltimore Hospital.

1. It would be useless to engage in an inquiry to ascertain to whom we are indebted for the introduction into our surgical nomenclature the epithet *Surgical* Anatomy. Mr. A. Burns, I believe, was the first who wrote a book under the title in question. The term seems to have become common, and we have had from the pen of Mr. R. Harrison, of Dublin, a little work of extraordinary worth under the name of Surgical Anatomy of the Arteries, &c.

2. Every cultivator of medical science, must be aware that a precise and correct nomenclature is as essential to the easy acquisition of anatomical and surgical learning, as it is to the science of chemistry, which has been so much benefited by the judicious improvement of its nomenclature by the illustrious Lavoisier and others. It would, therefore, seem proper, as a preliminary to an essay on what has been termed the surgical anatomy of the neck, to affix some pre-

cise meaning to the term. Upon the slightest examination it will appear that the term has been incautiously used; I mean with too vague or indefinite a signification.

3. Let us, in the first place, endeavour to ascertain in what sense it was used by A. Burns. I quote from the Baltimore edition. Page 31, it is said: "In works on anatomy *each separate system is generally considered apart*, and without a reference to the others; and in surgical books it is presumed that the student has already acquired a sufficient knowledge of the structure of the human body." From this sentence one would be led to suppose that Mr. Burns means by the term surgical anatomy, a more intimate knowledge of the animal structure than usually obtains; but this would obviously be using the term in too indefinite a sense. By following our author a little further it will appear that he really did employ it in that sense. After glancing at all the anatomical investigation which had preceded, he says, "still, this to the operator is not sufficient. It requires a greater degree of discrimination, and a more accurate conception of the parts, than most students, nay, I believe, than surgeons possess, to be able to combine these disjoined lessons, so as to form from them an useful and connected whole." In this sentence we trace the same ideas of surgical anatomy, according to Mr. Burns, as in the preceding part of this paragraph.

4. Page 32, Mr. B. continues; "The blood vessels are no doubt highly necessary to be understood, but this knowledge, to be practically useful, must be conjoined with a comprehensive acquaintance with the neighbouring parts. On this account, I endeavour to connect the demonstrations of the arteries, with the local structure of the muscles, nerves, and glands, and with the performance of surgical operations. That this is the most advisable plan of teaching the student the true value of anatomy few will dispute." I have thought proper to follow Mr. Burns thus far, in order to show that he means nothing more nor less by the epithet surgical anatomy, than a precision in regard to the relative situation of any one part, greater than obtained before his publications; since he expressly alludes to all anatomical investigation which preceded his own. Mr. Burns connected with his anatomy "the performance of surgical operations." Can he claim any novelty or invention here? have not a great multitude of writers pursued the same plan long since? It would be a waste of words to name those who have con-

nected anatomy and surgical operations; indeed there is not an author of celebrity on surgery who has not given us more or less of the anatomy concerned in surgical operations. Whether Mr. Burns has cultivated anatomy with more success than all his predecessors, is quite another question. Nothing is more certain, than that he arrived at a high state of distinction in anatomical investigations. And we must acknowledge the necessity which now exists, of fixing more precisely in the mind the relative situation of parts upon which we are to operate, than was either cultivated or essential before surgeons had so much extended their operations. The advantages which we possess over former surgeons, so far as anatomy is concerned, grow out of an increased necessity for precision. It does not follow from this circumstance, however, that we become better anatomists because we dissect differently from our forefathers. Anatomy now, as in former days, is only to be understood by long and patient dissection; and he who would propose a new method, in order to expedite the study of the science, is more likely to do an injury than a benefit to the practical surgeon. Persons who have been taught anatomy in the usual way, and have become familiar with the arrangement of the different systems of vessels, nerves, &c. and have thus acquired facilities which enable them to combine their lessons, and exhibit them to others, must not forget what they owe to former lessons, and that, by initiating the novice too speedily into the intricacies of combination, they lead him into indistinct perceptions, and bewilder him with the mysticism of hieroglyphics, instead of presenting simple, intelligible characters. Is it expected of us that we are more intimately acquainted with anatomy than our predecessors, Ruysh, Malpighi, Albinus, Monro, the Hunters, &c. We may fairly claim the honour of being better surgeons, not, however, because we examine parts as a "connected whole," but because our predecessors, whose attainments some would attempt to undervalue, have done so much for us in anatomy. Commencing with the bony structure, they went on to examine system after system, till the whole was completed. Pursuing their plan with a zeal and patience which would appal many aspirants after fame of the present day, they stopped not till they had explored with singular success, not only the more general systems, but also the intricacies of each glandular apparatus.

5. I would ask who can demonstrate the muscular structure without giving an accurate account of the bones? Who

can explain the arrangement of the nerves without demonstrating the brain, the viscera, and the muscles? Who can trace the arteries and veins throughout the system, without tracing them among and within the muscles? Who can exhibit the various folds of cellular and membranous structures without showing the muscles? In short it would be useless to trace the folly of simplification any further, since the various systems of structures are so intimately blended, that in examining the one we necessarily become acquainted with the others. Besides, while some of our anatomists are decrying systematic dissections, some of our best physiologists are pointing out to us the intimate association of various structures, as the mucous membranes, the serous membranes, &c. from which we derive some of our best pathological views, and some of our most efficient remedies are founded on them. These it will be proper to point out when I come to that part of my subject of which I shall treat under the head of Medical Surgery.

6. The best method of dissecting the human body, with a view to practical purposes, in the surgical department of our profession, is that long since laid down, and which, in contradistinction to that now practised by those who mistake novelty for improvement, may be termed the systematic method. And after a patient and thorough investigation by this method, it is necessary to examine every part likely to become the subject of operation, by the method of combination. But let the tyro beware, that he, by attempting to gain a knowledge of anatomy by a shorter method than that of our forefathers, does not fail to arrive at that state of perfection which Mr. Burns would persuade him is only to be attained by studying the subject as a "*connected whole*." There is no whole without its parts, and the component parts of all things with which we wish to become familiar, should be first known in their individuality.

7. From this view of the subject, it will follow, that surgical anatomy, means a course of study superadded to the common method. The anatomist is to explore anew the intricacies and relation of parts with a view to surgical operations. The separate systems, however well known, are yet to be examined in combination, in order that he may know what he must cut, what is to be avoided, &c.; but here he has nothing to do with physiology, nor even with pathology, in a general sense; these are subjects belonging to medical surgery. In a word, these subjects are to be learned, as

well in other places as in dissecting rooms. And surgical anatomy, in the proper sense of the word, has relation to that locality and combination of parts, which enables the surgeon to separate, divide, or remove them, without unnecessarily injuring a limb, or the whole body.

8. I consider it a matter of importance to premise my explanations of the surgical anatomy of the neck, &c. with an explicit meaning to the epithet surgical anatomy. By inattention to this circumstance, Mr. Burns, who has written a very valuable work, has published one of the most desultory books which I have seen. He may truly be said to be an excursive writer. To avoid similar inconsistencies I must explain at some length. Mr. Burns, in a work devoted to the surgical anatomy of the head and neck, has given us long dissertations on aneurism, tumours, hemorrhage, &c. and all these thrown together without order or arrangement. See the author's preface: "The present volume has no pretensions to more than merely containing a few hints, and these not always in very regular order." Yet this work, apparently, because it has the bewitching title of Surgical Anatomy, holds forth the pretensions of teaching what "most students, nay, surgeons," do not know of anatomy as a "connected whole."

9 To the medical student, and to all who would acquire a knowledge of medical surgery, the systematic study of anatomy is indispensably necessary. On this account teachers who adopt the lazy method of teaching anatomy by a few lessons in combined anatomy, will do the rising profession incalculable injury; and it is high time that a thing so preposterous should be closely examined. Those who attempt to teach anatomy, by a few lessons in combined anatomy, are, however, not more likely to deceive, than those who, from vanity or laziness, cease to demonstrate the structure of the body in general systems, and content themselves with disjoined lessons on particular parts. I have already said that it is necessary that the medical surgeon and the philosophic physician also should see the different systems in their integrity. Can he acquire this general knowledge by seeing first a head, then a trunk, a limb, &c. dissected? I answer, he cannot. To conclude, surgical anatomy, though it must, in certain particulars, be precise, falls far short of that precision and extent which the physiologist and pathologist must possess. The method of combination may do for the former, but that of systems will alone lead us to the precision which physiology requires. It remains

to notice the sense in which Mr. Harrison has employed the term surgical anatomy. He has obviously used it in too vague a sense. For instance, under the title of surgical anatomy, he traces the arteries through all their minute branches, in the brain, muscles, &c. and, indeed, says he treats of the arteries and such other parts of the human body as are necessary for the surgeon and physiologist. I have already shown that surgery, as an art, has nothing to do with physiology. Surgical anatomy, then, instead of being the higher part of the study, is but the part of the artist. The study of general anatomy with a view to physiology, pathology, &c. belongs to the philosopher, and is the province of *medical surgery*.

10. The foregoing reflections, lead me to the division of my subject, into surgical anatomy, operative surgery, and medical surgery; the former, means such a knowledge of the structure of any particular part of the human body, as will enable a surgeon to operate with the greatest safety and success. The two latter, embrace a much more extended, and I may say exalted sphere; the former is so much of the knowledge of anatomy, as is requisite for the purposes of the operating surgeon: the latter includes within its scope, physiological and pathological views, and the various curative measures founded on them. The former teaches us simply, how and where to operate; the two latter must be our guide in the *when* and the *wherefore*, in our operations; and must afford the rationale, by which we are to expect certain results. To blend all these in the desultory and irregular manner of Mr. Burns, is to endeavour to do science an injury; then, as the study of the higher or more scientific part of anatomy, is the study of general laws, for the most part, it would obviously be absurd to treat of these general laws, in laying down the surgical anatomy of some particular part. Where then is the propriety of discussing the laws relating to the healing of arteries, when simply divided, or in cases of aneurism, in a book which treats on the surgical anatomy of the neck, &c. The general laws relating to anatomy, appertain to the whole animal economy, and should be elsewhere studied, than in books on surgical anatomy.

11. Mr. Burns after speaking of the platysma myoides fascia, &c., at page 36, speaks of the sterno hyoid and sterno thyroid muscles—37 and '8, of a suppuration at the root of the neck, with impaired respiration. His opinion of this case is too curious to pass unnoticed. "The sterno hyoid and thyroid muscles are capable of steadying the hyoid bone, and thyroid

cartilage, or of depressing these parts, *but their great use is to co-operate* with the fascia, in preventing the gravitation of the air on the windpipe ;" Mr. B. seems to have forgotten here, that the trachea is made of cartilaginous rings, and that these have no other obvious use than that of forming a tube, at all times open from the lungs to the mouth. And is it not obvious that the muscles in question, in the various contortions of the neck, would have the effect of compressing the tube, if not prevented by the cartilaginous rings of the tube, nothing could be more obvious than the fact, that the trachea stands in need of no such adventitious aid. Our author goes on to illustrate this singular opinion, by a case of disease, furnished him by Dr. Brown. The patient had the whooping cough, when three years of age ; the disease was pretty severe, and ever afterwards, he experienced "some difficulty in breathing, but there was no mark of disease till within these few years." He had a considerable suppuration and sloughing of parts about the middle of the root of the neck, and because this patient breathed somewhat laboriously, Mr. Burns thinks it was owing to air pressing on the part, and obstructing the windpipe. The "lower thyroid artery, &c. were covered merely by a very thin pellicle of polished skin." And he tells us, that there "was at the time the patient inspired, a deep hollow formed at the upper part of the sternum, and a wheezing sound is produced by the passage of the air along the trachea." Suppose we admit that there was a narrowing of the windpipe which occasioned a wheezing sound, can we suppose that the fascia, sterno hyoid, and thyroid muscles, &c. were cut away by suppuration, and the trachea escaped similar ravages. Mr. Burns proposes stiffening the part in such cases, by a coating of sealing-wax, as has been "recommended by Mr. Abernethy after operations on the knee." No one will envy him for such an opinion ; we are advised to supply the place of fascia and muscles, and, by a lucky catch at the trachea, while expanded in the act of "expiration," keep it also permanently open by a coating of sealing-wax. I willingly abstain from further criticism on this opinion, except so far as it is calculated to lead to error. Does the suppurative process ever cut away muscles? can we suppose that by that process, the fascia and the sterno hyoid and thyroid muscles were cut away, and no caries of the sternum, nor any injury done to the trachea, as Mr. Burns leaves us to infer. Has he forgotten, that if the muscles in question were cut off, the larynx would rise towards the chin.

13. Mr. Burns having treated of the fascia, sterno hyoid, and thyroid muscles, the thymus gland, and the conglobate glands of the neck, commences, at page 43, his pathological views of tumours, with which he occupies fourteen pages; folio 58 and 59, we have an examination of the subclavian arteries, nervus vagus, recurrent, phrenic, subclavian vein and thoracic duct; and it is said "these parts are all grouped together in a very narrow space, and the perplexity of their dissection is further increased, by the interlacement of the different nerves with one another." Mr. Burns has really *grouped these parts together* in treating of them in two pages, and may well leave us in "perplexity" since he devotes the preceding fourteen pages to the pathology of tumours, and the five or six succeeding pages to the detail of a case of aortic aneurism which had been mistaken for disease of the subclavian artery. Folio 75, our author commences with what should have been the alpha of his subject, i. e. the external regions or divisions by which the parts may be located in the mind before we expose them. This would seem to be the proper place to introduce Mr. Burns' description of the *external boundaries*, but before proceeding to that part of his work, it may be useful to extend my inquiry in regard to the irregularities of the work, and to point out still further, the improper meaning which he has attached to the term, surgical anatomy.

14. At (p. 80.) Mr. Burns commences the detail of a case of axillary aneurism, and with it occupies eight pages. This case was the subject of operation, and although the operation was manifestly deficient in regard to the method pursued, and terminated unsuccessfully, yet it stands in the way of a young surgeon, who, misled by the high authority of Mr. Burns' name might be led into error. For an improvement upon this operation by Mr. Ramsden (for which he deserves the thanks of mankind as the pioneer,) we need only turn to the methods since proposed by different surgeons; of some of these I shall speak in their proper place. Mr. Burns tells us, (p. 95.) that "after the description of the *surgical anatomy* and relations of the subclavian arteries and neighbouring parts, I am next led to attend to the situation of the deep seated parts about the neck and face." He begins by saying that the adult is the most perfect form, and in such, in the living person, in whom no part of the throat is called into action, and in whom the base of the skull is placed parallel to the horizon, the os hyoides can be felt through the integuments, situated about four fingers breadth

behind the chin, and about a quarter of an inch lower in the throat." He then describes the thyroid cartilage and thyroid gland. Is this giving the surgical anatomy as a "connected whole?" Is this the superior method of Mr. Burns by which we are to improve our anatomy, and suit it to surgical operations? Or is it not rather indulging to the fullest extent in irregularity of method—a part here and another there—profess to be ready to examine "the deep seated parts about the neck and face," and commence with a description of the "thyroid cartilage and thyroid gland;" I might thus within the fairest rules of criticism, extend my objections to the plan of Mr. Burns' work. Enough has been said to show, that however much important information his work may contain, and however willing we may be to acknowledge its value as a whole when it was published—irregular as is its arrangement, and amended as it stands by the immense mass of information since its time, it is clear that he who would prune it of its weaker scions, lop off its exuberances, and remove its parasitic branches, and thus bring the whole into order, would present to the public eye, a tree whose symmetry of form would add to the honour of him who planted it, more than one who would lazily or weakly present the tree upon which hangs his fame, dropping its fruit for want of the lopping off of its exuberant branches, and dissecting its parasitic boughs.

15. Mr. Burns, speaking of what may be termed the external bounds of the surgical anatomy of the neck, has these remarks, (75,) "When the occiput is turned back, if we draw a line from the angle of the jaw to the spot where the clavicle touches the coronoid process of the scapula, and if we trace another from about half an inch behind the mastoid process, to the acromial edge of the origin of the sterno mastoid muscle, extend another along the upper margin of the clavicle, a triangular portion of the side of the neck is marked, in which many important parts are lodged." These boundaries are poorly calculated to locate parts—being wholly arbitrary, they are more difficult to remember than the parts whose locality they are intended to fix. Page 99, Mr. Burns.—"By laying a thread from the anterior part of the mastoid process, to the centre of the upper bone of the sternum, and by extending another from the side of the body of the os hyoides to a little nearer the sternum, than the central part of the clavicle, we describe pretty accurately the course of the muscles. The first thread defines, the anterior margin of the sterno mastoid, while the other follows

the direction of the omo hyoid: just beneath the point of intersection of these two lines, the common carotid is generally placed." The same objections apply to this paragraph as were made to the preceding. These lines are arbitrary and in a great degree useless, since it is as easy to find the muscles themselves as distinctly to find the points between which our lines are to extend. Page 101, Mr. Burns says, "In pointing out the depth of the artery, vein, and nerves, at different parts of the neck, it will be necessary to divide the latter into three suppositious regions; a lower, a middle, and an upper. The middle region will be defined by a line drawn from the root of the mastoid process, to the junction of the horn and body of the hyoid bone, another from the anterior edge of the mastoid process, to the centre of the upper end of the sternum; a third from the side of the hyoid bone, to near the middle of the clavicle. By these three lines a portion of the side of the neck, nearly of a triangular shape, is insulated. Along the whole extent of this, which forms the middle region of the neck, the carotid artery is accompanied by the nerves and jugular vein, as already described; in this situation, these parts are very superficial, they are merely covered by the integuments, the platysma myoides, the fascia of the neck, and their own cellular sheath." Now if all these lines, and points, and angles, and regions, are not singularly perplexing and calculated to render a simple matter complex, I know not what is. And if an operator has no better conception of the parts in his mind, than can be conceived by attending to these lines and regions, he had better take up the dissecting knife before he attempts to operate upon the deep-seated parts of the neck. Mr. Burns has, in different parts of his work, given the distance from the sternum to the inferior jaw and the intermediate points, at which, particular parts of the trachea are situated. These apply to the adult, the child, and the edentulous subject, and are important more especially so far as they go to point out the relative distance of important parts, which vary by reason of those different ages. To notice these more particularly will be in place, when I come to treat on the surgical anatomy, of the parts to which they apply.

16. There remains one subject of which Mr. Burns treats, which I think proper to notice in my introduction, in preference to giving it a place in my essay. My reason for doing so, is because it is unworthy of notice, except so far as it is calculated to do injury by falling into the hands of the unwary; I allude to his observations on the thymus

gland, (p. 39.) "The thymus gland, which is in a manner peculiar to young animals, is lodged between layers of the anterior mediastinum, immediately behind the sternum, and lying over the forepart of the arch of the aorta, the roots of its primary trunks, and the subclavian vein, between which and the spine, the trachea and œsophagus are placed." I have noticed his description of the gland, in order to show more clearly his ideas respecting the cause of tabes mesenterica. "The pressure of the tumour (speaking of the diseased gland,) on the subclavian vein, interrupts the entrance of the chyle into the heart, and hence the mesenteric glands are in such cases, generally found enlarged and obstructed." Should we leave such an opinion unnoticed? Who does not know that the tabes mesenterica is an idiopathic disease? Who could suppose that a mechanical obstruction of the thoracic duct would lead to scrofulous disease of the mesenteric glands? and yet Mr. Burns considers tabes mesenterica as a scrofulous affection. We are aware that an enlargement of the thymus gland, might, by obstructing the thoracic duct or the œsophagus, (a case of which I have seen) lead to starvation, and in all cases this would take place before the mesenteric glands would become indurated. Scrofula and mechanical obstruction might accidentally be simultaneously present, and death be thus hastened; but the knowledge of such a fact would avail us nothing in a surgical point of view.

17. Mr. Burns (p. 40,) proposes removing the thymus gland by a surgical operation, and tells us (p. 41,) how he removed it twice in the dead subject. "To do this, I made an incision on the front of the neck, just above the sternum, and between the sterno hyoid muscles, as in the operation of tracheotomy. By this cut the rounded knob of the diseased thymus was exposed. Having done this, I next insinuated the forefinger between the gland and adjacent parts, till the former was insulated *as far as I could reach.* After this, by a pair of polypi forceps cautiously introduced between the mediastinum and the gland, *I grasped the tumour, and wrenched it from its connexions.*" In objection to this operation, I need add but little to what Mr. Burns says of it himself. "This, on the living subject, would be a most dangerous operation;" as dangerous, no doubt, to the reputation of him who would undertake it, as to the patient. We are told, that "injury of the large vessels might be avoided, and the sponge would easily command any bleeding which might take place from its own nutrient arteries, an event which

is hardly possible *if the tumour be pulled away*." I would object to the procedure here proposed, first, from a strong apprehension, that in the tender state of infancy, at which time this operation would be at all likely to become necessary, there would be imminent risk in groping about in the chest with "polypi forceps." Shall we say here, that this proposal is too inconsiderate to lead any one into the dangers of such an operation—or, is it not rather our duty, to expunge from our list of operations, all proposals which are not supported by sound reason? Who, that has the feelings of a man, would not shudder at the idea of thrusting down polypi forceps into the chest deeper than the finger would reach, and from thence "wrench" an enlarged gland with all the attachments it must necessarily have formed?

In the second place, would there be no risk of the infiltration of blood or pus into the chest?

Mr. Burns says that, "the debilitated state of the patient will be a sufficient security against the occurrence" of inflammation. This is not the proper place for examining into the validity of such an opinion, but I consider it a duty, as a practical man, to express my disapprobation of such a doctrine. A low state of the body, more especially in a morbid condition, is far from being a security against inflammation. And there is no greater error in therapeutics, than that of supposing we can prevent inflammation by reducing the body before reaction has come on. I have again and again had the most unquestionable proof of such practice leading to increased and dangerous reaction. We can reduce the force of the heart and arteries by abstracting blood, but we proportionably increase the susceptibilities of the system. Nothing could be more unphilosophical, than an attempt to cure a fever or state of excitement which does not exist. After all extensive injuries, whether from accident or operation, I have long ceased to abstract blood before reaction comes on. I would therefore seriously offer my protest against the opinion, that because the body is in an emaciated, feeble state, such as may be supposed to attend tabes mesenterica, we have little or nothing to apprehend from inflammation. Such language could be used by none but the inexperienced.

18. "I grasped the tumour and wrenched it from its connexions," says Mr. Burns, and clearly advises such a procedure in the operation upon the living patient. This crude idea of tearing away tumours, so often advanced by our author, requires a little examination. Speaking of the glands of the middle chamber of the mediastinum, and of the

method of removing them by operation, he says, speaking of the enlargement of one of them, "we can, on cutting into its capsule, easily start it from its seat." Surgery, still more modern than that of Mr. Burns, does not sanction the rude use of the fingers so often proposed by him. It is not only objectionable on account of its rudeness, but I unhesitatingly aver, that it cannot be made available as far as Mr. Burns would lead one to believe. Such is often the firmness of attachments to strong fasciæ, &c., that almost no degree of rudeness can "start" them from their seats. In other instances, tumours containing fluids will burst, and leave a sac entangled among the fascia and other parts. And further, many tumours more solid in their structure, will tear to pieces under the most careful hand, and leave a confused mass of fragments so concealed, when torn to pieces, as not to be discerned. And hence, experience proves, what might *à priori*, have been known, that extirpation by the knife, as far as practicable, is always the best practice. We should always remove them if possible in their integrity, and when seated over important parts, we should endeavour to raise some part of the tumour; commencing on the one side, while we elevate by means of a hook or the fingers, dissect the tumour from its attachments; if they are near important vessels or nerves, the cellular structure or fascia should be elevated by dissecting forceps, and carefully cut with a common small scalpel. In short, wherever practicable, tumours should be dissected out; cases may occur where the fingers may be employed to advantage, but such a case can scarcely occur to a good anatomist. And instead of agreeing with Mr. Burns as to this "pulling" and "wrenching" of tumours away, all cases will be left more or less uncertain as to their entire removal, in proportion as we have been able to dissect them out. This is a subject for further investigation, when I come to the subject of operations.

19. Having now completed what I wish to say in this paper, introductory to an essay on the surgery, and surgical anatomy of the neck and face, it remains for me to show the plan on which I intend to proceed. It will be seen by the foregoing observations, that I intend to divide my subject into surgical anatomy, operative surgery, and medical surgery, and all observations under these several heads, will be confined to the neck and face, in the intended essays.

In the first division I shall endeavour to give the anatomy of the neck and face, as far as is essential to surgical operations on these parts of the body. This will require an expo-

sition of the anatomy separately, and then in combination. The second division will embrace all the operations which have been performed, or likely to become necessary, and many of these illustrated by cases which have occurred in my own practice, or where I cannot give my own, some of the most interesting of others will be noticed. The detail of operations will necessarily lead to expositions of morbid anatomy. Thirdly, under this division, so much of the pathology and physiology as are essential in the treatment of wounds and diseases of the structure of the neck and face will be given, as also, a succinct account of the therapeutics which may be required in the management of wounds or structural diseases of the neck and face.

(*To be Continued.*)

# REVIEWS.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. XV. *Collections from the unpublished medical writings* of the late CALEB HILLIER PARRY, M. D. F. R. S. &c. &c. Lond. 1825. Vol. I.

THE subject of the first essay in this collection is an inquiry into the nature of human knowledge, and the means of attaining it, with a particular reference to medicine; a subject of the deepest importance, not only from the unsettled state of our science, but also from the diversified state of opinion upon the subject of the mode of eliciting its truths, which has been the main and principal cause of the uncertainty and chaotic disposition, which still hovers over the vast abyss of its materials; whilst mechanics is a science already so clearly and certainly demonstrated, that the contemplation of a machine, by a person acquainted with the principles of the science, is only necessary to determine its efficiency and its value; whilst chemistry begins also to present a series of facts reduced to the most beautiful order and precision, becoming every day more mathematical; why is it that medicine, whose object is to allay pain, and arrest the hand of death, should still be considered as a mass of facts, with but few regular principles, notwithstanding the vast labour which has been devoted to it by men of the most accurate observation and profound inquiry, who have devoted with the most enlarged observation, and the greatest industry, their lives to its pursuit.

For this defect there are several reasons: The range of our science is most extensive: it embraces, in the objects necessary for its study, the mineral, the vegetable, and the animal world, and all the causes which operate in diversified relation upon these extensive fields of nature: for the human

body, though within its own system, it is regulated by peculiar laws, those of life: It is subject also to those which influence the whole machinery of the planetary system, those of gravity; and it is necessary to examine their agency not only as they operate upon the body as a whole, but as they modify each particular phœnomenon; to give a few instances—a person in syncope, whom it was necessary to remove from a lower to a higher apartment, was imprudently carried up stairs with his head foremost, and raised higher than his feet; the blood, which was necessary to the proper functions of the brain, was by this arrangement prevented from filling its vessels, and keeping up that degree of mechanical distention upon its vessels, as also affording the proper supply of the vital fluid, so necessary to its functions. The syncope, which before had been protracted, became fatal, and the pulse, which before was scarcely perceptible, ceased to beat, and the patient died: Paronychia is often cured by the simple operation of holding up the hand and arm for some time, if begun before the disease is firmly fixed: the raising of the head in patients threatened with apoplexy, to unload the brain of blood; the sitting posture in hydrothorax, which gives the lungs and heart more free play by the subsidence of the water on the diaphragm, are familiar instances of this truth. But it is not only in the details of the care of diseases, that it is necessary to study the laws of gravitation, in their application to the system, but also in the functions of motion and circulation. The laws of mechanics in the former, and of hydraulics in the latter, are equally necessary to be known; natural philosophy is then a study indispensable to the accomplished physician, and without it, those diversified, and to the ignorant, apparently trifling expedients, which, in the moment of danger, a knowledge of this science may put at our disposal, and which are so necessary both to the physician and the surgeon, would be entirely beyond our reach, and many valuable lives be lost to the world, which now are with ease saved from destruction.

A knowledge of chemistry is no less necessary: It puts at our disposal the mineral kingdom, and supplies the resources of our art, in the preparation of medicine. But it is to the peculiar intricacy which is thrown into the subject, by the addition of another cause—life, to which, the difficulty of our science is principally owing; the operation of air of water as modified in climate, soil, situation, and exposure; the endless combination of remedies, which are brought to bear against the wayward living machine, furnish a wilderness

of complexity, which must for ages to come, exercise the efforts of human skill and ingenuity, before the treasures concealed in its bosom, have been fully elicited. If by experimenting and making observations on the lower animals, the properties of the human system could be discovered, the difficulty would be less. But their qualities are totally different; thus the poison which destroys the lower orders, has no effect on the human system, and substances which take away our lives, are eaten with impunity by other animals; thus the infusion of quassia, destroys the common house-fly, to man, it is tonic and salutary: Many of the narcotic vegetables are eaten with impunity by quadrupeds, to man they are poisons. The study, therefore, of the properties of agents upon the living system, is one, which is to be pursued only by cautious and repeated inquiry and observation on the human system alone, and their agency is to be examined, not only in the healthy state, but in those diversified and complicated varieties of action, which air, moisture, heat, and cold produce, but in the various morbid affections, which afflict the body: thus multiplying the subjects of consideration to an endless extent.

With these difficulties to encounter, it is not to be wondered at, that the science should still be less advanced than those subjects where the causes are less complicated, and nature presents operations, which are more easily appreciated by observation, and measured by instruments. In the practical execution of the duties of our art, however, other difficulties arise. The study of the influence of external agents on the system, is but a part of this great business: The operations of the mind, that protean and deceptive being, in its various complicated effects, must be known to give consistency and power to the physician who would discharge his duties properly. The influence of anxiety, of hope, of sorrow, and all the passions which affect the system, must form part of his calculations; and to be perfect in his art, the study of the human character must claim attention; he should have at his command all the consolations of religion, supported by a character highly moral, as well as the resources of eloquence, to enforce and to persuade to the use of the measures dictated by his skill. With a character thus eminently gifted, with a practice which corresponds to his precepts, inspiring unlimited confidence, and furnished with all the resources of his art, afforded by an education highly scientific, the physician becomes the most useful, as well as the most excellent of human beings.

In the daily administration of comfort and happiness to his fellow-men, he appears truly in a great light; but there is still another duty which is higher, and in which he takes a wider circle of operation, as an improver and discoverer in his science, by which he is identified with posterity, in benefits, perpetuating his name to the latest generations. When the vast resources of human ingenuity, which have been fruitlessly squandered in the prosecution of the science, are considered, a question naturally arises, how is this waste of labour to be avoided? The essay of Dr. Parry clears up some of the difficulties of the subject, and as it embraces the most important question, which can occupy the attention of a medical man, we shall make some reflections upon it, embodying as we go along, the useful parts of his memoir.

Medicine, like every other science, is the history of something to be done: facts must be observed; their connection with their appropriate causes clearly understood; and thus, by ascertaining the power of every agent, which affects the system, the whole science is reduced to order, and by a proper classification of its facts, the physician is enabled to place his patient in such circumstances as are most favourable to recovery, by removing those things, which injure, and by exposing him to the operation of those agents, which increase his tendency to health.

The quality then, of causes, and the order of the succession of their effects, are the great and permanent subjects of attention. The properties essential to a cause and its effects, are; Invariable antecedence of the cause, and the same invariable consequence in the effect, unless some adequate agent intervene to prevent it.

Thus the exposure of a patient to the infection of the small-pox, produces a fever, which lasts a certain time, which is followed by a crop of pustules; these come to maturity, scab, and fall off, and the patient is restored to health. The venereal virus, produces a local effect on the surface; buboes follow; sore throat; affections of the skin; bones, consumption, and death. Each of these stages follow in regular succession, and without some cause intervenes to prevent it, the appearance of the small-pox, in the one case, and the sore throat, &c. in the other, invariably succeed. If the small-pox is communicated by inoculation and the pustule is cauterized in its forming stage, so as to completely destroy it, the disease is prevented: The same is the case with chancre; extirpate it and the whole train of consequent diseased phenomena is suspended completely. The quality

then, and the order of the phenomena, and of the agents which affect them, embrace the mechanism of cause and effect. In medicine, however, a difficulty occurs, from the intervention of a considerable space of time between them; thus the exhalation, which produces a fever, may be absorbed into the system a considerable time before the fever, its effect, appears. In inanimate nature, however, they follow each other more closely; a spark let fall upon gunpowder immediately ignites it, and an explosion is the result; the same spark let fall upon snow is immediately extinguished; in both cases the cause and effect follow each other so closely, that the nature of the agents is at once appreciated. In the human body it is otherwise, and the difference depends upon the character of the living principle; in its whole course it presents a succession of changes—of increase, of maturity, and decay: in health, the same is true—as in the states of youth, manhood, old age, and death: In disease, there is generally, also, a regular succession of stages: thus, in common inflammation, heat, pain, and redness, forms the first; pus characterizes the second, ulceration the third, and the process of healing, the last stage. In the erysipelatous species, heat, pain, and redness, the secretion of water, and lastly, branny scales. In fevers generally, the cold, the hot, and the sweating stages, form the succession. In each of these however there is some variety; common inflammation may be arrested, and terminate in resolution, or instead of forming pus, it may end in scirrhus or in gangrene. Erysipelas, instead of being followed by blisters and scales, may also terminate in mortification. The causes of these deviations, however, can sometimes be appreciated; thus a plethoric and irritable state of the system, may produce mortification, in an inflamed part, or the quantity of the poison absorbed may produce a fever in which a chill does not appear, the hot stage commencing the attack. The regular order, however, of almost every disease, is characterized by a commencement, maturity and decline, and this general feature appears to pervade all the operations of the system. In the sensible phenomena which are considered by natural philosophy and chemistry, the case is widely different; if one body is propelled against another, immediate motion, if the power is sufficient, is the result; if one planet approaches another, they mutually move towards each other, and the effect is immediate, proportioned to their distance; if two chemical bodies which have an attraction for each other are put into the same menstruum, they act at once upon each other, and the pheno-

menon there ends. But in the operations of living nature, the case is different: if an impression is made, the effect continues; a series of morbid stages appear, and by the operation of the system, the cause is gradually removed, or the system succumbs, and death takes place. In chemistry, and in natural philosophy, the causes are exactly measured by their effects; if a pound weight be placed at one end of a lever of a certain length, it will raise a certain weight at the other end, and its power is determined by known laws; and if a certain body is to be saturated with an acid, the necessary quantity can be ascertained, and all difficulty is removed in any future manipulations, provided the purity of the ingredients is known. In the operations of the human system, however, this is not the case; thus, the quantity of the poison necessary to produce a bilious fever, is not known, though this disease, in certain climates, is most destructive; the degree of fever produced, or any mode of measuring that degree, is also unknown: some circumstances in the system, as plethora, which may increase the fever, are so likewise; others, which exist exterior to the body, are also, as the influence of a high temperature in exhausting the system, &c., and producing a low or typhous disposition. The variolous matter inserted into the arm produces a pustule, a fever, pustules over the skin, and scabs, ending either in health or death. Some of the circumstances which modify the fever are known; thus, a low diet previous to the inoculation renders it mild, but the exact strength of the disease is not to be ascertained by any precise admeasurement; its general course, and some of the circumstances that influence it, are ascertained, but the degree of this influence varies in different subjects, in a manner which our science gives no precise rule to determine or foretell; this difficulty arises partly from the little attention which has been paid to the discovery of tests, for the various and peculiar states of the system; and, secondly, to the inherent difficulty of the subject; it is a property of the living body to take on a violent reaction, on a slight cause at some times, at others to retain the regular tenor of health, under every variety of exposure; and this depends upon some secret cause within, known under the vague and uncertain epithet, predisposition, which we have no test to measure or appreciate, except by the morbid result. Thus, a man exposed to the miasmata which produce the fevers of hot climates, will continue in perfect health, though his system is loaded with the poison, till he is exposed to a sudden cause affecting

either his body or his mind, as a shower of rain ; the emotion produced by a frightful story, &c. From the calmest state of health, his disease, a violent fever, suddenly appears, and the tendency to death is rapid, unless counteracted by some powerful agent, as affusion of cold water, which sometimes suppresses the disease at once ; or by the use of blood-letting, tartar emetic, which palliates and mitigates the fever, till it terminate in recovery or death. The cause here appears to be quite disproportionate to the reaction, a few drops of rain developing suddenly a most acute and destructive fever ; it is also irregular, for this same cause may produce it in a slight degree in one subject, whilst in another, no diseased action is the result, though both have been equally exposed to the causes which produce the fever. This difference is said to be owing to a variety in the predisposition to the disease, for which we have no certain measure or means to appreciate, except by the result—the disease.

In natural philosophy, astronomy, and chemistry, the case is different ; there every thing may be weighed, numbered, and measured, and all the steps of cause and effect appreciated. Till the same accuracy is obtained in medicine, an air of uncertainty must be thrown on the whole science. After thus considering the nature of the difficulties which envelop the subject of causation in our science, let us examine what is necessary to be ascertained in order to believe in a cause ; because, confidence in our own decisions, as well as the communication of it to others, are equally necessary to the usefulness of any truth.

"I. The degree of confidence which we feel as to the relation of cause and effect, is precisely proportioned to the frequency of similar cases which we have witnessed."

"II. When we err in this respect, which is extremely common, our error usually arises from defect of experience, or, in other words, from the want of repetition of similar cases."

"III. We form no notion at all previously to experience, of this succession." Of this last the familiar instance of a child putting its finger into the candle from ignorance, prior to experience of the result, is a sufficient illustration ; the ignorance of the world, till lately, of the mortal effects of prussic acid dropped on the skin, also illustrates it. It is then necessary, that the combining circumstances which attend an effect, should be so separated, as that the operation of the cause would be considered as undoubted and clear, and theneffect should be repeated as often as that, no

doubt of its nature could exist in our own mind or in those of others.

"IV. In order to establish the relation of cause and effect, the succession of phenomena, or in other words the series of links when all are discovered, must be not only constant, but invariable or inconvertible. Thus although day constantly and immediately precedes night, we do not infer that it is the cause of night, because we see that night also as uniformly and immediately precedes day. Since then these phenomena occur in convertible succession, one cannot be the cause of the other.

"V. In tracing the succession of links, which constitutes the connection between effects and causes, we must not by any means conclude that we see all the intermediate phenomena. Thus between any two of the links which form the chain from A to D, there may be many phenomena acting as causes, precisely as much as those which we actually perceive. These, which are, however, often perceived by chance, it is the business of the philosopher to seek, and, when found, to arrange in their right order. In the mean while, the inference from A to D may be just, and the series, so far as it goes, may be perfectly accurate.

"VI. Various causes may produce the same effect. Thus, if I want to raise a stone, I can do it by the mere application of my hand and arm, by a lever, a wedge, a screw, a pulley; by the conversion of water into steam or ice, or the extrication of elastic air from the deflagration of gunpowder. In all these cases, though the mode is different, the effect is the same; and on this, as on other occasions, our conclusion, with regard to the connection in each instance, is derived from an accurate observation of the invariable succession of the respective phenomena.

"VII. Various causes may produce the same effect, which may itself be the common cause of an effect immediately succeeding. Thus in the following arrangement,

A B C D may severally produce the effect E, which may be the cause of F.

"This is the true mechanism of remote and proximate causes; A, B, C, D, being in this case remote causes of F, and E its proximate cause. It also explains the fact mentioned, (V.) where all the causes cited are remote causes, producing one common effect, which is impulse, and this the proximate cause of the rise of the stone.

"It is obvious that the chain of effects does not in all cases, as in the present example, necessarily end at F. The phenomenon or effect in question may be one or more steps lower, as, for example, G; in which case E will be a remote, and not a proximate cause, and may still be itself an effect common to either of the several causes, A, B, C, D.

"VIII. Were all phenomena, objects, or ideas, simple and uncombined, it would not be difficult to discover their series, so as throughout the whole of Nature to ascertain the relation of cause and effect. This, however, as I have already remarked, is far from being the case. On the contrary, there is reason to believe that our senses are incapable of perceiving, and therefore of distinguishing, any single element. The most simple bodies are presented to us in combination; and it is this which induces the chemist continually to analyze substances, which he can effect in no other way than by exhibiting them in new combinations. Even binary compounds themselves have probably never been seen; for precisely in proportion to the advance of the science, we discover that bodies, which were supposed to be compounded of two parts, or principles, are made up of a greater number. Hence it is, that, hitherto, no such arrangement of the qualities and order of chemical phenomena has been made, as to constitute clear and undeniable laws.

"But without going into the minutiæ of chemistry, it would be easy to show how, on the various occasions of common life, we employ a similar analysis for the establishment of our notions of cause and effect, and the consequent direction of our conduct. One might illustrate this principle by showing, that if an adult savage, who had never before known the qualities of fire, were on a sudden to see, and burn his hand by touching, a red-hot cannon ball, he would, by the recollection of other objects, and by the changes gradually observable in the ball itself, separate all the sensible qualities of the ball, namely, colour, magnitude, figure, hardness, and weight; and abstracting the injury to his hand from each of them, would refer it to some other cause producing a peculiar sen-

sation; to which cause he might, by chance, give the name of *heat.*

"IX. Our acquiescence in the relation of cause and effect in any series of phenomena, as from A to D, will be the more perfect if it can be shown, that any one link in the chain, or the order of various links, has never been known to exist, except in that series of which A is the commencement. Thus the variolous pustules have never been known to arise subsequently to any other phenomenon than the application of variolous matter, in some form, to the animal body.

"In this case then of A in inconvertible order preceding D, and of D being never known to exist without A, we have all the evidence of the relation of cause and effect, which can possibly exist.

"X. When we have the evidence stated in the last section, the want of proximity between A and D, or the want of any one or more of the connecting links, is no just objection to the conclusion that they stand in the relation of cause and effect. Thus a man is bitten by a mad dog. The wounded part heals, and not a single symptom of indisposition, either in the constitution or part affected, occurs for several weeks, or perhaps months. At length, however, arises a symptom, or a series of symptoms, which in its quality or order differs from all others, except those which have followed the bites of animals so diseased. We, therefore, justly conclude a malady thus circumstanced to be caused by the bite of a rabid animal.

"Let us, on the other hand, examine by this test some of those practical conclusions, by which mankind perplex themselves, and impair the happiness of society. A pregnant woman is frightened, or longs for some article of food, which perhaps she is unable to obtain. A child is born with a mark or deformity, which is, without hesitation, attributed to the affection of the mother's mind. Would such a conclusion ever be current, if mankind in general, knowing how to judge of the relation of cause and effect, knew that millions of women have, during pregnancy, longed or been frightened, whose children are free from every blemish; and that hundreds of children are born with marks, whose mothers have never either been frightened or longed?

"So also in a very recent and popular example. A child is vaccinated, recovers from every effect of the operation, and remains for weeks, months, or even years, free from all disease. At length it has an eruption on the skin, or be-

comes scrofulous; and these effects are attributed to vaccination. What, however, is the state of facts? No new form of eruption or scrofula has appeared since the introduction of vaccination. More human beings had both eruptions and scrofula before the introduction of vaccination, than since; and lastly, millions of human beings have been vaccinated, who have since had neither scrofula nor eruptions. Are the opposers of vaccination acquainted with these facts? If they are not, they have not the materials of judging. If they are, they have not the capacity of judging.

"In these examples all the conditions of proof with regard to the relation of cause and effect are absolutely wanting; for not only D rarely follows A, but occurs in millions of cases where A does not exist; nay, in the case of vaccination, more rarely than it did before A began to exist.

"Such is the precipitation with which phenomena are placed in the relation of cause and effect, on account of distant and fortuitous succession, by persons unaccustomed to exercise the rational faculty.

"XI. In order to produce a given effect, the quality of the cause as to intensity or degree must be precisely ascertained. Thus a stone of a ton weight may be raised by a lever. It is, however, evident that every assignable degree of force will not be adequate to this effect; but that the degree must be proportionable to the end proposed.

"XII. From the circumstance mentioned under the preceding head it follows, that a coincidence of causes may be often necessary in order to produce a required effect.

"Both this, and the foregoing head, will derive further illustration from that which immediately follows.

"XIII. Causes which at first view appear the same, do not always produce the same effect.

"This may arise from various circumstances.

"1st, From hasty and cursory observation;

"2dly, From the want of a light sufficiently strong to enable us accurately to view the object;

"3dly, From a defect of percipient powers;

"4thly, From prejudice, or the substitution of inference for actual observation;

"5thly, From the complexity of objects, as specified in VI, where the uncertainty arising from this source is sufficiently explained."

It appears then, in order to judge properly of the power of a cause, all the circumstances of the case must be taken into view, whether in the agent producing the effect, or in

the patient operated upon, and in this particular the perfection of medicine consists.

"Causes have been divided into two kinds, *efficient* and *final.*

"Efficient causes are those phenomena which in the series precede those which are called effects, conformably to the rules above established. The term efficient itself, according to the usual indiscrimination of language, implies an active power in the former to produce the latter. I say an active power; because the word power is used to signify not only a self-acting object or principle, but something which is wholly passive, or a mere capacity of suffering a change from the operation of an agent which is external to it. In the latter sense, according to the illustration of Locke, wax has the power of being melted. On this, as on other occasions, indeed, we find it difficult to conceive material objects to possess any real agency or self-moving principle, or any power of creating external phenomena; and therefore cannot avoid considering all these powers as the mere effects of the will of God, who might have modified and changed them as he pleased. When, therefore, I employ the terms *efficient* and *power* as applied to matter, I only mean to express the quality and order of perceptions or phenomena.

"A *final* cause is merely an effect, implying the end or tendency of any series of phenomena.

"Thus the final cause of just punishment is the production of happiness; by which is meant, that the just design of inflicting pain on delinquents is the promotion of personal or public virtue, and therefore happiness. So the final cause of hunger is the nourishment of the animal body; and the final cause why I employ the exercise of walking, is the maintenance of health.

"In these and all other instances of final causes, there is an implication of some intelligence, making that which is called the final cause, the end, view, purpose, or design of certain phenomena or actions. Thus, in the last example, my practice of walking arises from a design to preserve, by bodily exercise, that health which I have been accustomed to see result from the same practice under similar circumstances. So also in the example of hunger, it is implied that there was an intelligent mind, who made food necessary to the nourishment of the animal body, and hunger the inducement to eat."

Under the head of efficient causes may be ranked those which are called remote and proximate.

"Remote causes have also been divided into

"1st. Occasional or exciting causes; and

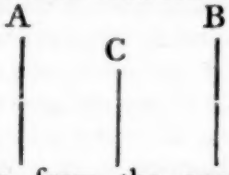
"2dly. Predisponent, or predisposing.

"Of these the first are obviously those, to the operation of which the given effect is owing. The second requires some farther examination.

"For this purpose let us suppose a pair of scales to be so constructed as to require, in order to turn them, a weight of ten grains; and let nine grains be put into the scale. They will produce no sensible effect. It is, notwithstanding, certain that they predispose the scale to turn, for it will do so when a single grain is added; whereas, before the nine grains were employed, ten were required in order to produce the same effect.

"Here then, is a tendency to be acted on by an exciting cause; which tendency is called predisposition, and is often imperceptible till its existence is proved by the visible slightness of power in the exciting cause, relatively to what is required in other cases apparently similar.

"Dr. Brown I think, appositely illustrates the same principle in the animal economy, by supposing health to consist in a latitude of fluctuation between two parallel lines




In proportion then, as, from the operation of any causes, whether original in our make and frame, or subsequently applied, our state deviates from the central line C towards either of the lines A, B, a slighter cause or impulse, than would otherwise be necessary, might propel us beyond the limits of health, and occasion us to pass within the boundary of disease. This state of approach, therefore, to either limit, is called predisposition, or the predisposing cause of disease.

"This term, therefore, is applicable merely to a condition which exists in one or more parts of the body, and which is an approach towards a given and sensible effect. Thus if the proximate cause of hemiplegia be a diminution of the nervous energy of one side of the brain, of which the usual remote cause is the pressure of blood poured out from the cerebral vessels, we may conceive how, either from a previous diminution of energy in the brain itself, which is an approach to the proximate cause, or a preternatural laxity or fulness of the cerebral vessels, either of which is an approach to-

wards the remote cause, all existing in the body, certain exciting causes, in themselves otherwise insufficient, co-operating with these states, might produce the effect called hemiplegia.

"On this and on other occasions it is however probable, that the chief agency of predisposition is on the remote causes existing in the body, rather than on the proximate ones; because the latter are seldom capable of being acted upon by those, which are external to the part or the constitution, except through the medium of the former.

"This predisposition is often hereditary; this, however, does not constitute actual disease, but is only a susceptibility to it, when the causes which produce it are present.

"Having seen a series of phenomena invariably occurring so as to constitute cause and effect, whenever we observe a part only of the same phenomena occurring in the same order, we conclude the existence of the other links, and therefore of the whole series. This is the process of inference or induction, with regard to cause and effect, which was before explained with regard to complex ideas or objects, and which forms the chief exercise of the faculty of reason in the pursuit of knowledge, and in the conduct of life.

"In contemplating all those circumstances which constitute the happiness or misery of our fellow-creatures or ourselves, we naturally trace back the several preceding actions and events through their whole series, and comparing them with other trains, and with the revealed will of God, observe their fixed and immutable connection as causes and effects. Remarking also that the same series, which, in a great variety of instances, were to us future, are now past, we justly infer that the same causes will continue to produce the same effects; and are thus determined to pursue that conduct which leads to good, and to avoid that which leads to evil.

"The road to this great knowledge is therefore the ascent from effects to causes, and that of practice the descent through causes to effects.

"Hence we see how essential it is to true knowledge, and therefore to happiness, that we should obtain clear and decided notions of the invariable order of phenomena in the sensible world around us; and that both in speculation and practice, we should be cautious of admitting any inference, which is founded on an observation of only a few phenomena.

"It is a painful duty for me to remark, that there is no subject in life, in which more of false reasoning is admitted than in the science of Medicine. There is too frequent

an assumption of principles, which are the offspring of prejudice arising from fashion or hereditary authority, and which are wholly unconfirmed by general experience. Of this kind are,

"1. That bleeding is injurious in the gout.

"2dly. That it would be fatal in typhus or dropsy.

"3dly. That nervous headachs arise from the state of the stomach, and should therefore be treated by those remedies, which cure or relieve dyspepsia.

"4thly. That all nervous affections spring from debility, and therefore are to be cured by full diet, tonics, and stimulants.

"5thly. That the majority of diseases originate in a disordered state of the functions of the liver; and many others.

"These opinions would be of little consequence to mankind, were they merely speculative; but, unfortunately, they lead either to the omission of means which would be salutary, or to practices, which are generally useless, and too often positively injurious. I shall hereafter have occasion to scrutinize them more minutely in their proper place; and trust that I shall be able to prove that they are mere assumptions, not founded on observation, and contrary to direct experience.

"Not only are these erroneous opinions received, without inquiry, as a sort of medical axioms, which it would be heresy to doubt, but various inferences from actual phenomena have been promulgated and pass current against the laws of sound reasoning.

"Thus, it having been in a few particular cases observed that scrofula was accompanied with evident disorder of the alimentary canal, and that the former ceased when the latter was removed, it has been inferred that the latter is the usual cause of the former.

"Is it then true, in fact, that dyspepsia is a usual concomitant of the first beginnings of scrofula? It is not. I have seen a multitude of cases, in which all the functions of the alimentary canal were most perfectly performed, and yet the patient was scrofulous; and if the two maladies occasionally subsist together, it is just as reasonable to conclude that dyspepsia is produced by scrofula, as that scrofula is a symptom of dyspepsia.

"Here then, at the outset, there is an assumption of this erroneous principle, that because scrofula is produced in some cases by dyspepsia, where dyspepsia actually exists, it is owing to dyspepsia in other cases, where dyspepsia does not exist.

"In favour, however, of this supposed origin, it is farther stated, and considered as decisive, that scrofula is cured by remedies which restore the functions of the digestive organs. It will readily be allowed that this reasoning will scarcely be admitted, where the functions of those organs are not disordered. But even under the coincidence which is stated, the conclusion is also illegitimate; for it does not necessarily follow that the restoration of the functions of the constitution succeeding that of a disordered part to which a remedy is applied, is the effect of the restoration of the functions of that part. I say it does not necessarily follow; because the remedy may have a tendency to act on the whole system, and the part to which it is applied may merely happen to be the first which experiences its salutary influence. Thus a man shall have a violent inflammatory fever, with local inflammation shifting from joint to joint. He bathes the inflamed part with cold water; the inflammation subsides, but the fever continues, and an inflammation appears in another part. To this he applies a great number of leeches. The local inflammation disappears, and with it the fever. Here then a local remedy, having power to cure a constitutional malady, merely shows its first influence on the local disease.

"These observations tend to show the caution with which we should receive speculative principles leading to important practices, though sanctioned by fashion, and promulgated by persons who are justly of the greatest authority in the science. Of such persons I may remark with the illustrious Haller 'sed et ii homines fuerunt: Natura sola non fallit.'"

In the following analysis, the pathological discussions are omitted, as the work abounds in practical matter, which will more properly occupy the attention of the subscribers.

The author believes, that the increased momentum and velocity of the blood, produce inflammation, and makes some remarks on that subject, which are not without interest in a practical point of view.

### *Casual Effects of Increased Impetus of the Blood.*

If the action of the heart be increased from any cause, as flatulency, surprise, &c. in consequence of the increased determination of the blood to every part of the system, disease is evolved in particular organs, which are susceptible of certain morbid actions: hysteria, mental alienation, epilepsy, asthma, &c., are thus often produced. To avoid these terrible effects,

of course any cause which excites an excessive determination of blood, to the head or other parts susceptible of disease, must be avoided. This remark is of importance to prevent particular diseases, as puerperal mania, of which our author relates a case, in which a lady who had considerable tendency to the head before parturition, became maniacal from the effect of flatulency in the bowels; in consequence, the heart beat violently, and the disease of the head supervened.

*The Difference of States of Inflammation* arises partly from the texture and partly from unknown causes; as gout, cancer, common phlegmon, &c. Increased momentum, however, says our author, is a circumstance common to them all. He then goes on to state the effect of gravitation in increasing inflammation from the increase of the momentum.

"The gout in the feet is always worse after the feet have long been down, and is diminished by the horizontal posture. In Mrs. A. C. the pain of a violent inflammation of the eye, which was easy while she was sitting up, was for ten successive days violently aggravated immediately on lying down.

"So also in the case of erysipelas, which generally descends, inflammation has a relation to the gravitation of blood in the vessels.

"*Inflammation is not always shown by a hard pulse.*—Mr. G. had slight synocha, with pains in various muscles, a soft pulse, not much exceeding 78 in a minute, a white tongue, night exacerbation of pain, a pink sediment in high-coloured water, and inflamed and cupped blood. *Pain* is not a constant symptom of inflammation, as in that of the liver, lungs, &c. It has been absent in several cases, as in Mr. P. with fever and highly inflamed blood, &c. &c."

*Disposition to Inflammation.*—This is various at different times. In some seasons, suppuration follows the operation of bleeding which it does not at others. This remark may prevent alarm and blame on particular occasions.

*Long Predisposition without previous disease.*—In a person nearly seventy years of age, the part on which a blow was received, appeared pale for many months, without inconvenience; it at length became dead, and a large slough separated from it.

Some remarks follow, which show, not as is stated by the author, that inflammation and sweating, are similar states; but the danger of wearing warm stockings, by persons whose feet were disposed to sweat much.

"I have constantly observed, that during periods when, from warm clothing or other circumstances, the feet per-

spire, then gout has been apt to come on, though in hot weather. On the other hand, when the feet have been dry, though comfortably warm, even in cold weather, patients have not been subject to gout. I *think* woollen next the skin increases both.

"In Mr. B. (a young Russian) when sweating most in the feet, rheumatic pains were then the greatest."

*Typhus, Scarlatina, &c.*—The author remarks, that four-fifths of the cases of typhus, which occurred in a large population, among the better classes, "have been either in lone houses, in elevated situations, or, if in towns, in the most airy outskirts. The latter also has been in a still larger proportion true, with regard to Scarlatina. I cannot help, therefore, thinking, that some state of the air, as its weight or temperature, must have a considerable share in producing these diseases."

This remark is truly curious; in this country, however, it does not hold good; the poor are invariably the subjects of typhus, excepting in epidemic prevalencies, and it is to be referred to their bad diet, and the unwholesome air in which they live; it occurs most commonly in the skirts of large cities. With regard to scarlatina in this country, it is confined to no particular locality.

*Anasarca.*—The author observes, that this disease is often increased by external heat; an important fact, as it is most generally supposed to proceed from debility. Though this is no doubt almost always its cause, the following observation, shows the necessity of keeping the patient cool. A dropsical female, had the effusion uniformly increased on that side which was exposed to the fire. It shows the necessity of lessening the quantity of bed clothes in this disease, not only as they increase the disposition to secretion of the hydropic fluid, but also as increased external heat diminishes the secretion of urine.

*Erysipelas cured by cold.*—In the case related, the usual symptoms of this disease occurred—redness, swelling of the face, giddiness, &c.

"His pulse was rather weak, and upwards of 130 in a minute. His feet and hands were often very cold, but his face was then hot, though not very red, and there was no matter under the cuticle. He was perfectly incoherent, answering questions quickly and irrationally, constantly talking and picking the bed clothes, frequently attempting to get out of bed, and his hands affected with violent tremors.

"An opening draught was ordered, and five leeches were directed to be applied to his temples.

"At half past nine, P. M. the pulse was weaker, and all other symptoms were aggravated. I left the room with no hope that he would be alive the next morning. But it having occurred to me to try the effects of the application of cold to the head, I ordered that half an ounce of finely powdered Muriate of Ammonia should be suddenly dissolved in a quart of the coldest water, and cloths dipped in it to be folded round the head; the application to be repeated every four or five minutes, and a new solution to be made once in two hours.

"Dec. 10, A. M. Pulse 116. Head cooler, and night much more quiet. He had borne the application well, and had much less of delirium and tremor.

"Eight, P. M. Pulse 96. The application had been very assiduously continued for hours together, and the tremblings of his hands, and other symptoms, were evidently lessened.

"Dec. 11. Pulse 96. The application had been continued every quarter of an hour, during the night; and he had had in the morning an hour and a half's sleep, the first which had occurred for an entire week. Two motions.

"Dec. 12. Pulse 84. The water was applied from ten at night till four in the morning. Very little delirium and no tremor.

"Dec. 13. Pulse 72. No delirium or tremors; but for several hours he had been affected with severe cough.

"Dec. 14. Pulse 72. Night good; face of the natural size, and, together with the head, scaling all over. He was sitting up, free from complaint, in a room adjoining his bed room, with no consciousness of having suffered any malady."

*Itching of the Skin.* This troublesome disease is treated generally by empirical remedies. Our author observes as the result of his experience that those who would obtain the greatest relief from it, should abstain from food, drink, and heat.

*Changes produced on the Skin, by Fever, Erysipelas, &c.*— The effect of the depressing passions, as fear, grief, upon the colour of the hair, is generally believed to be permanent; the editor of this Journal had under his care a patient, who was nearly wrecked in a vessel on the coast of Spain; his hair in a short time became partially gray; he was young; its color was again restored, after the lapse of some months:

"With the desquamation of the cuticle, the hair of the head, and on various parts of the skin, is apt wholly or in

part to fall off. As, however, the skin is renewed, a fresh crop of hair also arises, and is usually such, as to strength, thickness, and colour, as, in patients advanced in years, to give an appearance of a much earlier age. Thus when, after an erysipelatous fever, which I suffered at the age of fifty-five, the skin of my face, and various other parts, repeatedly came off, and with it almost all my hair, which was extremely thin and gray; after some months, a new growth covered my head, thicker, and with a much greater proportion of dark hair than before. Mr. G. at a more advanced age, had for several months a fever, in which I saw, first the membranes, then the ligamentous parts, and afterwards the glands, affected with inflammation. He recovered, and the hair of his head, which had been dark, but had become much more gray than mine, was renewed in increased abundance, and without a single white hair.

"From partial inflammations an opposite local effect is often produced on the hairs scattered on the skin. In the spring of 1811, I had for some weeks violent gout in my right wrist, for which, though it was accompanied with considerable fever, I did not abstract myself from my usual professional avocations. Soon after the inflammation had subsided a great number of long black hairs appeared on the skin of the back of the hand and wrist; but after some months gradually disappeared, leaving the skin in the usual state.

"In the winter of 1813 and 1814, after an attack of gout in my left wrist, a similar new growth of hair occurred on the outside of the wrist and lower part of the fore-arm.

"Among the effects produced by fever on the nails and hair, I must not omit to mention that change to crookedness so often observable in the former from hectic fever; or that disposition to the growth of a beard on the upper lip, which occurs in young females in the advanced stages of that malady. For the latter information I am primarily indebted to the late Mr. Barry, of the Hotwells, Bristol, whose experience in hectical cases was very extensive, and who, so far as I know, was the first person who observed the fact, and considered it as characteristic of the malady."

*Cure of the Dropsy.* The following observations are valuable.

"I have long considered the operation of remedies in curing dropsies, as influencing and removing their cause, whatever that may be; more especially disordered action of the heart or arterial system.

"Of this state, deficiency of urine is a usual, but not con-

stant effect; for I have seen at least ten cases, at various ages, from fifteen to sixty, of dropsy, chiefly anasarca ending in hydrothorax, in which the quantity of urine has spontaneously been from the beginning, till two or three days before death, fully equal to that which was natural, as, for example, from two to four pints daily, clear, and even sometimes pale, and yet the patients have all died. Nay, I have never seen a patient recover under these circumstances of a natural state of urine.

"On the other hand, I have known many examples of patients labouring under dropsy of different kinds, with defective and high coloured urine, who have perfectly recovered, all the effused water having been absorbed; and yet the remedies producing the cure did no more than just restore the urine to its healthy quantity and colour.

"The connection of deficient urine is, therefore, only an effect, and by no means a cause."

The author goes on to state many cases of dropsy cured by bleeding: The editor of this Journal has seen cases of this disease, which were evidently inflammatory and cured by this means. The pulse was full and the anasarca general, and venesection produced relief in a few days. The following case shows that the practitioner should always watch the state of the system, in this disease: The endless variety of modes in which it is affected renders it necessary that the physician should be attentive to any appearance of inflammatory diathesis, more particularly as depletion has always been considered as dangerous in this complaint. The author enumerates several cases which support this opinion, and deserve to be generally known.

"About the year 1784, I attended a young man, who had peritoneal inflammation with stoppage in the bowels, which were with difficulty relieved, and were immediately followed by ascites. The fever continuing, I caused him to be largely blooded from the arm, and ordered him saline and opening medicines. The fever soon ceased, and the ascites disappeared, with little aid from the remedies usually exhibited as diuretics.

"Some years afterwards I was called to visit a noted horse dealer, between fifty and sixty years of age, who was a great drinker of spirits, and laboured under diseased liver, with ascites, anasarca, a quick pulse, and an extreme paucity of urine, very high coloured, and depositing a copious lateritious sediment. A great variety of remedies having been tried without effect, I had eight or ten ounces of blood taken

from the arm. It exhibited a very thick and tenacious crust of coagulated lymph. Without the aid of any other remedy, the pulse was reduced in frequency; and the urine during the next twenty-four hours was quadrupled in quantity, and became clear and proportionably pale. At this period another Physician being consulted, to whom blood-letting in these complaints appeared a most dangerous practice, I was not disposed to urge its repetition in a case, which, though it had suffered some temporary remission, was much too far advanced to admit of a cure from that or any other remedy.

"*Bleeding in Anasarca, &c.*—Col. G. O., a short, rather corpulent man, between fifty and sixty years of age, who had been a free liver, and subject to frequent fits of the gout, became my patient in consequence of great œdematous swellings in his legs, paucity of urine, and total loss of appetite, for which, as they were supposed to be connected with a gouty diathesis, he was sent to Bath for the use of the waters. At my first visit I found him labouring under these symptoms, to which were added a sense of great heaviness in his head, a flushing of his face, disturbed sleep, an occasional stertorous inspiration while he was awake, depressed spirits, a very dry tongue, and full, strong, and a rather quick pulse.

"At this time, Aug. 1790, I was young in my profession, but not altogether unobservant of the facts which presented themselves to me, and as it had happened to me to see more than one case extremely similar to that which I have described, in which the patient either had afterwards epilepsy, or was relieved by copious hæmorrhage from the nose, I ventured to predict that one or other of these events would occur to Col. O., unless they were prevented by a timely artificial evacuation of blood.

"It will readily be conceived what impression this proposition, at that period of medical knowledge, made on the minds of the patient and his friends. What! bleed a man at an advanced period of life, of a gouty habit, in such a state of debility, actually labouring under dropsy, and who clearly wanted blood, rather than suffered from a superfluity of it? Never, surely, was there so wild and extravagant a proposition!

"Notwithstanding these objections, I persevered, and was fortunate enough to gain my point. Ten ounces of blood were taken away by cupping. The patient felt immediate relief of all the more important symptoms. The weight in his head and stertorous inspiration were removed, the tongue became less dry, the pulse softer and slower, he had that

night many hours of comfortable and refreshing sleep, and waked with some appetite.

"But, though the remedy was considerably beneficial, it was insufficient for the purposes of the constitution, for on the following day he was seized with a spontaneous bleeding at the nose, which was very copious, and in a few days no symptom of indisposition remained.

"Captain B., aged about forty, a stout and rather corpulent man, had been for many years subject to gouty attacks of a very inflammatory kind; but having escaped them for several months, began to be affected with œdema of the feet and legs, accompanied with quick and strong pulse and great difficulty of breathing. This gentleman also consulted me, in consequence of having been sent from home for the purpose of drinking the Bath Waters.

"When I saw him on the 6th of December, 1799, his legs and thighs were swollen to an enormous size; his pulse was extremely full and regular, and 120 in a minute; and his breath was so laborious, that he had not even attempted to go to bed for forty successive nights, and was obliged to keep himself in a perfectly erect posture in an easy chair, without being able to recline in any direction. His urine was very small in quantity, of a deep red colour, and depositing a copious lateritious sediment.

"Instead of giving Mr. B. the Bath Water, or any other stimulant, I ordered ten or twelve ounces of blood to be taken away by cupping, and a grain of digitalis to be administered twice a day, with pretty large doses of a solution of potash, given with lemon juice during effervescence.

"By this process he was enabled on the very first night to repose in a somewhat recumbent posture in his arm chair, and had some comfortable sleep.

"The next day his pulse was at 104, his urine much increased, and his breathing so much improved, that he was able to go to bed, and obtained much refreshing repose.

"The remedies were continued, with another cupping. The urine remained in a state of clearness and habitual increase, and the anasarcous swellings and dyspnœa proportionally diminished; so that after three or four days he slept without any interruption in a perfectly horizontal posture. The state of reduction in his pulse was as follows: On the 8th of December, the pulse was 104; on the 9th, 100; on the 10th, 92; on the 11th, 90; on the 12th, 92; on the 13th, 92; on the 14th, 88; on the 15th, 85; on the 19th, 80; on the 4th of January, 72.

"Soon after this, without the use of any other remedies, Captain B. had a smart fit of inflammatory gout in the extremities, and left Bath in good health and spirits.

"Mr. C. Crook attended this gentleman with me."

Other cases are related, which lead to the same results. Another case is stated in which it was attended with good effects, though the constitution of the patient was gouty and between 60 and 70 years of age. Difficulty of breathing, cough, weak and irregular pulse, attended the first attack, which was relieved by squills, digitalis, and other diuretics.

"Shortly afterwards, he was suddenly seized with a loss of sense, accompanied with every mark of pressure on the brain, without hemiplegia.

"I now most willingly availed myself of this opportunity to employ a measure, which I regretted that I had not before practised. Accordingly, Mr. P. was several times bled, both generally and topically; and each time with the most apparent relief.

"In a few days, all symptoms of disorder in the head were removed; but were almost immediately followed by a violent thrush, which also in a short time disappeared: and now, not many days afterwards, when he appeared to be free from complaint, he was seized with a smart fit of inflammatory gout in his extremities, which went through its usual course, and left him in comfortable health."

A case is next stated, in which bleeding was used in œdema of the legs, in which the pulse was full and hard. The local application of leeches to both legs relieved the disease, after many other remedies had been tried in vain.*

The prevailing idea that petechiæ are most generally the result of diminished pulse is clearly shown by the following valuable fact. It supports the opinion of Dr. Rush, who practised bleeding to alleviate this symptom in yellow fever.

"In Mrs. B., aged thirty-eight, in a typhus, on the twelfth or thirteenth day, petechiæ appeared on the hands, arms, and breast, of a cloudy marbled hue; the eyes at the same time red; the pulse from 112 to 120, the respiration from 50 to 60 in a minute, with incoherency and quick manner, dry tongue, and considerable heat. Leeches were applied to the temples, strong purgatives administered, the head shaved and washed with cold applications. In two days (the fifteenth day) the pulse came down to 92, when in a few hours the redness of

* The whole Memoir on Dropsy, from which the above remarks are extracted, is published in an appendix to an edition of Blackall on Dropsies, by the publisher of this Journal.

the eyes disappeared, together with the petechiæ, the heat and quick manner went off, and were succeeded by torpor, in which the urine and stools were passed without knowledge, but the patient became convalescent. On the eighteenth day, P. 84, R. 40, stupor lessened, and there was more consciousness."

Several cases of inflammatory petechiæ are then given, which show, in a decided manner, the danger, as well as the insidious progress of the disease. They were relieved by bleeding in one case and by the use of the nitric acid in large doses.

There can be no doubt from what has been observed in this country as well as in Europe, that this disease is often curable by depletion; when it occurs it is often attended with black stools: purgatives are then peculiarly efficacious. The author then goes on to state his experience with regard to the use of cinchona in rheumatism. In one case of a remittent character it succeeded perfectly well; in others, it was thought to be useful only because, by its exhibition, the use of more dangerous remedies was prevented. The phlogistic diathesis produced by this medicine must always *render it dangerous*, even in recovery from this disease, if the habit be in the slightest degree inflammatory.

*Affections of the head.*—The author pursues his favourite idea of increased momentum and velocity of the blood, as the principal source, of most of the various forms of morbid action, which affect the body. To the head, various circumstances favour the determination of blood; in youth, its size and unusual development: in middle age, the unceasing cares and anxieties of life, which give origin to the endless varieties of nervous affections. To the state of the mind, there can be no question, many other diseases are unquestionably owing, as phthisis pulmonalis, liver affections, dyspepsia; care weakens the body, and renders it susceptible of the influence of external causes, and it is through the medium of the brain, that its effects are distributed over the system, and it is in this organ, as the centre of the nervous influence of the system, that the most terrible morbid reactions to which the body is subject, generally take their seat. It is therefore, next to the heart, the most susceptible of morbid impressions.

"It is a curious evidence of the greater readiness of arterial determination of blood to the head, than to other parts, that after general coldness, &c. the heat first commences about the head, and then gradually extends itself to more

distant parts. That even exercise produces the same effect is clear, from the effect of it, as well as of other causes, in producing sweating, which always begins about the head.

"It is not to be wondered, that determination should most usually take place to the vessels of the head, when the action of the heart is increased beyond its due bounds; because we find that the resistance through them to the passage of the blood is least. So we find that in palpitations, pain of distention is felt about the carotids and subclavians; and in diseases of the heart from ossifications, &c. and in various fatal diseases, when the pulse is lost in the extremities, it remains in the carotids. See Haller's Opuscula Pathologica, Obs. LII.

"Determination to the head, producing nervous affections, or in fevers, does not always produce debility. On the contrary, when, in a certain degree, impairing general sensibility, it takes away the sense of pain, and, of course, the disposition to feel fatigue; both of which return or increase as the determination diminishes.

"Any local disease, as of the heart, producing increased action, may, by inducing undue determination to the head, occasion disease in it, as in Mrs. S. J., Miss C., &c.

"Supposing, for argument's sake, that the disposition to determination to the head arises from undue action of the heart, and this from undue nervous irritability, as the order of facts, still the more urgent symptoms depend on that impulse into the vessels of the brain, which certain remedies, as evacuants, sedatives, &c. will relieve."

The author goes on next to examine, how this predisposition is effected; he supposes it to proceed from excessive determination of blood, which secretes and deposits the nervous matter, in undue quantity; as this result is beyond our knowledge, we are obliged to rest satisfied with the phenomena, which certainly in many instances exhibit evidence that vascular action is the main source of disease, of which, the following interesting proofs are given, in conformity with the author's theory, of increased impetus and momentum.

"In case of *pain in the head*, membranous headach, as in Mr. P., the temporal artery is uncommonly prominent to the sight, only during the fits of pain; the head at the same time is hot, and the feet are cold.

"In cases in which there is pain of the head, with evident marks of increased determination of blood to that part, every systole of the heart, often produces a momentary obfuscation of vision, which goes off during the diastole.

"Mr. A., who had a constant rushing sound in his left ear, found himself immediately relieved from it by compressing the facial artery where it passes before the ear.

"In Mrs. P. the noise is only on the right side of the head, where the carotid is strong. The other side is well, and the carotid much weaker.

"Dazzling, or coruscation before the eyes, like vertigo, appears to be an affection of the brain, connected with some effort to stimulate the stomach and alimentary canal to act in the expulsion of wind.

"When I have had black specks before my eyes, with a sense of fulness in the head, I have perceived the specks to appear as the blood rushed forwards at each systole of the heart, and nearly or quite disappear at the diastole. [1816.]

"In Mr. G., Mr. V., and a thousand others, a total restlessness, and want of sleep, arise from increased fulness of the carotids, accompanied with heat of the forehead, chiefly coming on when lying down in bed at night.

"It is a proof that delirium, even of typhus, is owing to increased impetus of blood in the head, that in Mr. O. S., and many others, when the face becomes suddenly flushed, and hot, which frequently happens, there is immediate agitation and alienation of mind, which, together with the heat, are always removed or relieved by the application of cold water or vinegar to the head.

"One circumstance of increased impetus deserves to be noticed. The delirium is preceded by a pain in the head, but as the delirium comes on, the pain ceases; though the impetus remains as before, or perhaps increases. Diminish in a slight degree the impetus, and you remove the delirium, and renew the pain. Diminish the impetus in a greater degree, and the frown on the forehead is relaxed, the features seem to open, and the pain entirely ceases.

"In Mrs. F. a chronic pain in the back part of the head, and left side, especially about the cheek and eye, accompanied with heat of the parts, and a sensation of bursting there, is always relieved by an involuntary discharge of tears from that eye.

"In Mr. S. and Rev. Mr. W., the first occasional disposition to apoplexy, or epilepsy, that is, stupor and heaviness alternating with restlessness, with more or less of mental alienation, was once nearly cured by bleeding, and by frequent purging. In both, as well as in various hysterical patients, crying is frequent, and usually without tears, but with the corresponding actions of the diaphragm and intercostals.

"Miss J. B. lost the noise in her head during faintishness from bleeding.

"In Mr. P. one leech applied to one temple relieved that side of the head, but not the other. Indeed if there is hemicrania of an inflammatory kind, as in Mrs. P., which arises from an affection of one set of vessels only, there can be no reason why topical effects may not arise from topical remedies. [1808.]

"In diseases of the head from local fulness, blood-letting enables the vessels of the part to recover their contractile power, and natural contraction; so that new supplies of blood in the system are properly and equally distributed. In answer to what people urge as an objection to blood-letting, that the quantity is soon made up again, therefore the operation cannot be finally efficacious.

"Miss A. M., Oct. 17, with determination to the head. Her nose accustomed to bleed when she did not walk for a week; but never when she did walk. [June 5, 1810.]

"Sir D. S., subject to considerable determination to the head, was also apt after tea to be affected with loss of voice; for which he was advised to substitute coffee for tea. He did so, and in consequence lost the symptom.

"In Mr. S., Æt. 64, accustomed to violent affections of the head, vertigo, or pain, the head is always relieved when œdematous swellings, without heat or inflammation, come on the legs and feet. When the swelling goes off, the head becomes very bad."

In general, these affections of the head, are supposed to proceed from plethora of the system of the vena portarum, in answer to which, the author makes the following remark.

"A man shall have violent affections of the head, and shall be relieved by the coming on of a pile which only swells, and does not discharge; and when that pile goes back, shall have the head again affected. Now the pile being only the evidence of the greater fulness of the system of the cava inferior, or vena portarum, should increase the symptoms according to the former supposition. On the theory of change of determination or fulness, the whole is easy and simple.

"In lady A. H., Nov. 1808, who had had epilepsy, suddenly, there had come on with violent pain in the head, a stuffing of the nose as from cold, going off by blood-letting. The blood greatly inflamed; without other marks of catarrh, except some watering of the eyes. No cough before or after. Some fever. These were symptoms of determination to the head.—So, also, in Mr. P., a great stuffing of the nose oc-

curred before, during the time of, and for many days after the fit, though confined to his bed from the last fit, and no marks whatever of catarrh from cold. Dec. 1808.

"In Miss M. and Mrs. S., both much subject to violent nervous symptoms, and the latter, though extremely thin, dying of apoplexy with hemiplegia, the same thing often occurred; in both from going into a hot room."

The author proceeds to illustrate his theory of nervous affections, arising from the impetus of blood to the brain; as the vascular system is that in which reaction is principally concerned, the following facts and reasonings will be found interesting, not only as they will have a tendency to divert the minds of practitioners, towards the agency of the blood-vessels, in these diseases, which are still too much treated by antispasmodics, but also as they rest upon the basis of actual practice and observation, and are unquestionably true.

["June 21, 1812.]

"*Delirium*, *nervous complaints*, *&c.* being affections of the brain, produced by *various causes* evidently acting immediately on that organ, and, on *other occasions*, by increased momentum of blood, causing inflammation, &c. we may fairly presume that the same diseases always arise from an affection of that organ.

"Now if we observe that delirium, and other derangements of the rational faculty, occur most frequently to persons accustomed not only to causes of general corporeal indisposition, as hard drinking, a sedentary life, &c. but also to those who have yielded to the indulgence of bad habits, as anger, the gratification of all other immediate desires, and the avoidance of every act which produces the slightest present inconvenience, we have fair reason to conclude that all these latter causes, like the former, do in reality act on the brain, &c. predisposing it to be affected by exciting causes, in the same manner. Hence comes the danger to the head, after laying in, to women who have indulged one train of thought almost to methodistical delirium during life, who have taken no exercise, and have otherwise practised positive and negative self-indulgence. So far as to the brain.

"So also as to the danger of diseases in which the heart performs a leading part, as fevers, &c.; in which its powers are more apt to fail from predisposition in over indulged and indolent persons than others.

"This order should, however, be inverted, because if it can be shown that the principle is true, with regard to the

heart, it follows that it is probably true in the brain. So of all other parts relatively to their several functions, and their symptoms during disease."

The following case shows, in a striking manner, the importance of mercury, applied in hydrocephalus; a practice, which, though not entirely disused, is still considerably neglected.

"Master W., an infant with pertussis, incessant convulsions, and enormously enlarged head, with open sutures, was cured by rubbing into the head, by mistake, within twenty-four hours, an ounce of strong mercurial ointment. He is now, fourteen or fifteen years afterwards, living, healthy, and strong."

(*To be continued.*)

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ART. XVI. *Medico-Chirurgical Transactions*, of London. Vol. XIII. Part I.*

The case of tumor in the anterior mediastinum, containing bone and teeth, details a history similar to many others before observed :† it formed part of a fetus, which had been born with the patient, and produced by its irritation on the lungs, the death of the subject.

Mr. T. Chevalier, details a case of lacerated wound, produced in the groin, by riding with great violence against a projecting body; the artery and vein were laid bare, and on the next day, the pulsation in the injured limb had ceased: the leg became cold and cadaverous; on the second day, the knee near the patella was discoloured, and towards evening, he had pain in his leg; slight sensibility and power of motion, however, still continued in it; he took opiates to relieve pain during a week, and on the 8th day commenced the use of the bark: on the 9th, the discoloration had spread a little, the death of the parts gradually extending, till exhausted at length by the spreading of the gangrene and hemorrhage from the wound, he died on the 18th day, from the accident.

"*Dissection.*

"The arteries were all impervious in the neighbourhood of the wound; but the inguinal, the femoral, and the pro-

* The plan of analysis is followed in this review.

† The transactions notice similar cases, recorded in the Memoirs of the Philosophical Society of London; a male greyhound passed per anum, a mass resembling a whelp—a chlid was born with a tumor near the anus, containing some rudiments of an embryo.

funda veins were found separated by ulceration, and terminating by open mouths in the depth of the wound. These vessels had all been tied, so that the patient died from constitutional debility, the effect of an intemperate life, of the injury in his groin, and of the loss of blood previous to the operation, with that of about a pint and a half, which escaped rapidly while it was being performed. The Muscles of the leg were rather livid when first exposed, but not at all disorganized. It is remarkable, that, although there were some traces of florid blood in the anterior tibial artery, the femoral was found distended below the seat of the wound, with blood of the deepest modena hue. The colour of the calf of the leg was become very much darker since yesterday morning.

"This patient's sensibility to warmth applied but just above the desiceated parts of his foot (although it was insensible to all other impressions,) proves its nerves to have retained to the last some degree of vitality: and it may be worthy of inquiry, whether the drying of his toes, their cuticle remaining on, and the rapid desiccation of the limbs of some other patients, are not to be attributed (rather than to evaporation alone) to some degree of activity remaining in the *absorbents* of their affected limbs.

"The state of this patient's limb, and the history of his case, demonstrate that the powers of his constitution were expended to no beneficial end; no effort being made to separate the dead parts from the living, whilst the remains of life in the calf of his leg were to be preserved.

"In conclusion, I may mention an observation of my father's, which I find confirmed in the writings of others, that the pale, or white dry gangrene, as it is more commonly called, takes place only where the veins of the parts affected, are not obliterated; and that, on the contrary, the black dry gangrene is one result of the obliteration of both sets of blood-vessels."

A case of ulceration and rupture of the stomach, by Dr. Elliotson, which, as it gives a clear view of this hopeless affection, is valuable. It appears that in the experience of Mr. Travers, the chief diagnostic symptoms of this affection are, first, "sudden, most acute, peculiar and unremitting pain, radiating from the pit of the stomach or navel to the circumference of the trunk and even to the limbs; secondly, coeval *rigidity of the abdomen;* and, thirdly, a *natural pulse* for some hours, till the symptoms of peritonitis begin."

In other cases, some little variety in the order of the appearances has occurred. In one given by Laennec, the pain

lessened on the evening after the rupture, and on the third day scarcely any was felt.

"Dr. Carmichael Smyth recorded, between thirty and forty years ago (Medical Communications, Vol. II. p. 467 et seq. 1790,) the case of a young lady, whose stomach suddenly burst to an extent sufficient to admit a quill, in a round ulcer, about the size of a sixpence, that had destroyed all but the peritoneal coat of the organ. The rupture occurred on her going to bed, and instantly caused violent pain, which lasted greater part of the night, but she complained of none in the morning when Dr. C. Smyth was summoned to her, and passed the day tolerably well. She expired suddenly in the evening."

The patient in the case of Dr. Elliotson, had laboured under dyspepsia, and had eaten pork a few hours before the attack, at her dinner, which it appeared agreed with her better than any kind of meat. The case presented the following symptoms. "She was standing in her bed-room, leaning on the neck of a female servant, and groaning with agony at the pit of the stomach. Her features, naturally long and sharp, seemed now unusually so; her swarthy pallid complexion was become cadaverous, and the expression of her countenance, was that of the most dreadful suffering. She was shivering with cold, though before the fire, and her hands were icy and blue. Her pulse was a hundred and twenty, but neither full nor hard, nor particularly weak. Her breathing was very quick and short. She retched every now and then, but vomited nothing more than the barley water she was drinking.

"I was informed that she had been in this state rather above an hour: that she first complained of chillness for about five minutes, and was observed to fix her eyes on vacancy for a minute or two, and then suddenly cried out with the pain at the pit of the stomach."

Opiates, V. S. were practised; the pain in the abdomen increased; the remedies were unavailing, and she died on the 4th day. On examination it was found, that "the abdomen was prodigiously distended, and, on opening the peritonæum, a large quantity of very fetid gas escaped. On the whole parietal portion of the peritoneum, was a layer of fibrine, as also on the whole convex surface of the liver, the anterior surface of the stomach and of the omentum, and on much of the intestines. It was for the most part readily peeled off, but had effected adhesions between some portions of the small intestines, and between some portions of the

peritoneum and omentum. A good deal of yellowish fluid with white flakes, was collected in the upper part of the abdomen, such as is the mere product of inflammation, but I could discover no effusions of the contents of the stomach. In the anterior part of the cardiac half of the stomach, a little below the small curvature, was a perfectly circular aperture, with a smooth edge, large enough to admit the end of the little finger, and the surrounding part was of a dark colour to some extent. The stomach contained a good deal of soft dark matter, which readily escaped on moving or pressing the organ. On examining the interior, a large ulcer was discovered, two inches in length, broad at one extremity and gradually narrower towards the other, with smooth edges, and the surrounding parts were greatly thickened, and very red and hard. The ulceration was gradually deeper from the narrow extremity to the other, where the rupture had occurred."

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Dr. Breschet relates a case of a fœtus formed in the substance of the parietes of the uterus; no cavity communicating with the cyst could be discovered; death ensued from its rupture and effusion of blood into the pertioneum. The explanations of this phenomenon given, are entirely hypothetical, and will not interest our readers.

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It appears from the researches of Mr. Pope, that the irritating qualities of the croton tiglium oil reside in the husk or shell of the seed, and more particularly in its epidermis, whilst the medulla or pith contains an oil of the mildest, most safe, and efficacious character. The croton oil is a most valuable purgative for horses.

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The remarks on the diagnosis, and on the inversion of the foot in fracture of the neck of the thigh bone, by James Guthrie, Esq., are interesting, from the circumstance that "the depth at which the head and neck of the femur are situated, and the manner in which they are surrounded by the soft parts, render an examination of them sometimes difficult; and, from the fact that the displacement, together with its particular nature, is often more satisfactorily ascertained by certain attendant, and even distant signs, than by the closest investigation of the part itself, the immediate derangement of which, cannot, at all times, be perceived, more particularly if the sufferer be large and fat."

The dislocations which may be mistaken for fractures, are of two kinds—upwards and backwards on the os ilii, and

backwards into the ischiatic notch. As the signs which are diagnostic of dislocations and these fractures, are common to both, they must be considered collectively, in order to enable the practitioner to form a proper conclusion.

The symptoms of these dislocations are given as follows:

"In the first kind of dislocation, or upwards and backwards, the head of the femur is removed from the acetabulum, drawn upwards, and turned backwards on the dorsum ilii. The trochanter must, consequently, be forwards, and nearer to the anterior superior spinous process of the ilium. The limb is necessarily shortened, from one inch and a half, to two inches and a half. The knee is turned inwards, and a little advanced, and the great toe rests on the instep of the other foot. The head of the bone is firmly fixed in its new situation, the limb cannot be drawn outwards, or fully separated from the other, although it admits of motion inwards, when the head of the bone may be felt in most cases moving on the dorsum ilii. The trochanter major is less prominent; the hip will consequently be flatter, and its rotundity will be diminished. There will generally be a greater degree of distortion than is apparent in any other kind of injury.

"In the second kind of dislocation, or backwards into the ischiatic notch,* the limb is from about half an inch to one inch shorter than the other, but generally not more than half an inch. The trochanter major is behind its usual place, but is still remaining nearly at right angles with the ilium, with a slight inclination to the acetabulum. The head of the bone is so buried in the ischiatic notch that it cannot be distinctly felt, except in thin persons, and then only by rolling the thigh bone forwards so far as the comparatively fixed state of the limb will allow. The knee and foot are turned inwards, but less than in the dislocation upwards, and the toe rests against the ball of the great toe of the other foot. When the patient is standing, the toe touches the ground, but the heal does not quite reach it. The knee is not so much advanced in the dislocation upwards, but is still brought a little more forwards than the other, and is slightly bent. The limb is so fixed, that flexion and rotation, are, in a great degree, prevented.

"There is a third kind of dislocation mentioned, but which has not been demonstrated. The dislocation is upwards, but, contrary to what takes place in the first species, the head of the bone is turned forwards, the trochanter back-

* Sir A. Cooper on Dislocations, &c. page 66. 3d. edition.

wards. When such an accident occurs, the knee and great toe must be very much turned outwards, the limb shortened from an inch and a half to two inches and a half, and fixed so as not to admit of rotation inwards. The head of the bone will be distinguishable on the dorsum of the ilium, the trochanter will be deeply buried, and turned backwards. The hip must be greatly flattened, constituting altogether, a diagnosis not easily mistaken, whenever such a case occurs."

The author then proceeds to give the diagnosis founded upon these symptoms, which we extract at length.

Fractures of the neck of the femur may be confounded with these luxations, as in both the latter, the limb is shorter. Fracture of the neck, if the bone is distinguished by eversion of the foot, though it is rare. "Even where the eversion does take place, some hours often elapse before it assumes its most decisive character, as the muscles require time to enable them to assume a determined contraction. The inversion of the foot, in fracture, was first noticed by Paré, and his remark was confirmed by Petit, but subsequently disputed by Louis, who considered it either as an error on the part of the author, or of his copier. Dessault, however, met with it so often, as to compute the frequency of its occurrence to be as one to four; an assertion which may be considered very extraordinary when compared with that of Boyer, who says, he never saw an instance of the kind in the very great number of fractures which came under his observation, and concludes his remarks with the following observation: 'We are not acquainted with a sufficient number of instances, in which the foot turned inwards, to enable us to admit that this even happens occasionally. We have never seen it, and it is difficult to conceive how it can take place. Time, further observation, and above all, anatomical inspection, can alone furnish the solution of this problem.' "*

The author goes on to remark, that it was formerly his opinion, "that when the foot was turned in, or neither in nor out, the fracture must have occurred in the cervix of the bone, near the head, so that the portion attached to the trochanter passed behind that remaining with the head of the bone, and, in this manner, caused the turning inwards of the great toe; or that the capsular ligament being torn, it passed backwards behind the acetabulum, giving rise to the same appearance. In either of these hypothetical cases, the inversion of the toe, or point of the foot, should not have conti-

* Boyer. Traité des Maladies Chirurgicales, tom. iii. p. 268. Paris, 1818.

nued after the limb had been restored to its proper length; a result which, in the cases I have actually seen, did not follow; proving, therefore, that the opinions entertained of the nature of these cases, were unfounded. The only dissection of an injury I am acquainted with, made previously to the one presently to be noticed, in which the toe turned inwards, is in the possession of Mr. Langstaff; but in that case the great toe was, in the first instance, everted, and subsequently turned inwards, when the patient began to use the limb. The preparation shows the fracture to have been within the capsular ligament, close to the head of the bone, and gives a decided refutation to the opinion of the length of the broken portion attached to the trochanter being the cause of the inversion, inasmuch as this part has been removed by absorption. The point of the foot was everted whilst it retained its proper length, and only became inverted by a wise provision of nature to assist progression, after it had begun to be shortened."

He then relates the case of a boy, in whom the head, neck, and part of the trochanter of the thigh bone, was removed in consequence of scrofula with abscess of the hip, in illustration; after removal of the bone, recovery took place; the thigh was three inches and an half shorter than the other, and both in the recumbent and walking attitudes, the toes were turned inwards.

The following cases are valuable:—

"In January, 1823, I visited a lady who, seven days previously, had sipped at the entrance of her house, and fallen on the left hip. She suffered great pain in the part, at the inside of the thigh, and in the course of the sciatic nerve. She was lying across her bed with the affected limb supported by a stool, the toe and foot being very much everted, and the heel resting below the ancle of the opposite side. On placing her in the extended position, the limb seemed little shorter than the other, was movable in every direction as far as it could be tried, on account of the extreme pain it occasioned. The upper part of the thigh or hip was swelled, and a derangement of the trochanter could be distinguished, but the nature of it could not be distinctly ascertained; a crepitus was not discoverable. The injury was declared to be a fracture exterior to the capsular ligament, but, after the first day of treatment, the great toe turned inwards, resting against the toe of the opposite side, and continued to do so for several weeks, giving rise to a great deal of annoyance on my part, and several subsequent examinations, from the fear

of having misunderstood what appeared at first to be a well marked case. This lady can now, after an interval of eighteen months, walk with the help of two sticks, the limb is little shortened, and the foot is in its natural position.

"Sarah Gibson, aged 90, fell, on the 9th of January, from a high stool on which she was sitting, upon the left hip, and being a heavy woman, suffered considerable injury. I saw her two days afterwards with Mr. Dillon, of Judd Street, and found the marks of a considerable contusion having been sustained by the part, which was very painful and swelled. The limb was rather more than half an inch shorter than the other, and the great toe turned inwards, as in the preceding case, in a manner sufficiently marked, although not quite so decidedly as in a case of dislocation. The limb was movable in every direction, but these motions were attended by considerable pain, and it could be easily extended to the same length as the other. No crepitus could be distinguished. The patient died on the 22d February, forty-four days after the accident, and on dissection a fracture was discovered external to the capsular ligament. The little trochanter was broken off, and with it the attachment of the psoas and iliacus muscles. The head and neck of the femur were separated from the shaft by a diagonal fracture, extending from the upper and outer part of the trochanter major to the trochanter minor, so as to leave the insertions of the pyriformis, gemellus, obturator externus and internus, and quadratus, with the head and neck of the bone. The glutæus medius formed a bond of union at the upper part of the trochanter major, between the broken pieces, retaining them in contact. The capsular ligament was not injured, and no steps whatever appeared to have been commenced to repair the mischief which had been committed. The great age of this person, and the trifling nature of the accident giving rise to so serious a fracture external to the capsular ligament, deserve remark."

The author goes on to observe, that in the dead body, and when muscular power is extinct, from the weight of the foot and limb preponderating outwards, the toes turn in that direction. "If the living body be placed on the back, in the extended position, but in a state of quiescence, the same thing takes place, the weight of the limb being greatly assisted by the rotators of the thigh outwards, viz. the pyriformis, the gemellus, the obturator internus and externus, and the quadratus. Any kind of fracture, admitting of displacement, which can happen within the insertion of these muscles, will have the effect of increasing this eversion, as it diminishes

the resistance to the contractile power of these muscles, which, stimulated to action by the injury, readily overcomes that of their antagonists, and particularly of the tensor vaginæ femorus, the glutæus minimus, and part of the glutæus medius."

When the fracture is without the insertion of the rotators outwards, yet sufficiently within the insertion of the glutæus medius and minimus as not to deprive them of their due action, the toe, our author states, will always be turned inwards, "or remain without any alteration of position, according to certain variations in the inclination of the fracture affecting the power of these muscles. The effect which the breaking off the little trochanter, together with the attachment of the psoas and iliacus muscles, had on the position of the limb, must have been rather to assist the inversion of the toe than otherwise, but whether it be an essential part of the accident is to be determined by future observation.

"When the thigh is broken immediately below the little trochanter, the upper portion of bone is carried outwards and upwards, in a manner deserving particular attention. The power of the rotators outwards being infinitely greater than that of the rotators inwards, which can now act, viz. the glutæus medius and minimus, the broken extremity of bone would be pointed directly outwards, if it were not modified by the action of the psoas and iliacus, partly assisted by the pectinalis, which cause it to take rather a diagonal direction upwards, or forwards and outwards, constituting then, in every case, a rising and displaced extremity of bone which is the first step towards the shortening of the limb; a circumstance which has always been, although I conceive erroneously, attributed to the action of the long muscles inserted into the lower portion of the fractured bone. Those who have been conversant with amputation at the thigh at this part, will acknowledge the correctness of the remark, and do not forget, in placing the fractured limb in position, that if it be convenient to follow the movement caused by the psoas and iliacus, it is not less necessary to attend to that which has been effected by the rotators outwards."

When, however, the thigh bone is broken on any part below the trochanter, the toes, he states, are turned outwards, if the patient be placed in an extended position, a circumstance which arises "from the weight of the limb, increased by that of the bed-clothes, and from the different effect produced by muscular action in fracture, to what takes place when the bone is in a state of integrity. The slight degree

of influence the tensor vaginæ femoris can exert as a rotator inwards, is counteracted and invariably overcome. The long muscles and the adductor have lost the point d'appui and centre of motion afforded by the head of the femur, whilst the weight of the foot, at the extremity of the long lever of the leg remains, rather assists than retards, in the commencement of their action, the eversion of the fractured portion of the limb.

"The inferences to be drawn from these observations, are,

"1st. That whilst the eversion of the foot is characteristic of fracture, its absence does not indicate the non-existence of fracture.

"2d. That the inversion of the foot is equally characteristic of fracture as of dislocation, and is only distinguishable, with reference to these two different states, by comparison, or a due estimate of the degree of inversion.

"In the dislocation upwards and forwards, or on the dorsum ilii, the inversion of the foot is complete, the great toe is turned inwards, and rests on the instep of the opposite foot, being the first or greatest degree of inversion. The limb is generally two inches shorter than the other.

"In the dislocation backwards into the ischiatic notch, the inversion of the foot is decidedly marked, but is not so complete as in the preceding case. The knee and great toe turn in, the latter resting against the ball of the great toe of the opposite foot, and not admitting of rotation outwards. The limb is but little shortened, yet cannot be lengthened without great force.

"In fracture the inversion of the foot is less complete, the great toe merely turns to the opposite one, and sometimes scarcely does this; the limb is but little shortened, is easily everted, readily moved in almost every direction, although not without pain, and is restored to its proper length on the application of a very moderate extension. This constitutes the third degree of inversion.

"3d. That inversion of the foot does not take place in fracture within the capsular ligament, and that this symptom is rather diagnostic of a fracture through the trochanter major, a portion of it being continuous with the shaft of the bone."

Considerable discussion has arisen on the subject, both of dislocation and fracture, in regard to the shortening of the limb. To decide this difficulty, it may be observed, that it is probable it has arisen from our not properly distinguishing between the symptoms, which may be called immediate, and

those which follow some hours after; thus, "instances are recorded in which the patient walks several steps after the accident; and Dr. Colles, in the 2d volume of the Dublin Hospital Reports, has given the dissection of three cases, in which no displacement could have taken place, as the fractures were incomplete. I have known a man walk several steps after a fall on the trochanter, then become incapable of moving the limb, although no retraction of it took place; yet, on examination several weeks after, the deposition of bone behind the trochanter, uniting the parts, could be readily perceived. It is admitted, however, on all sides, that in relation to the retraction, as well as to the eversion of the limb, three or four hours must elapse before it assumes its most decisive character, and persons have not been wanting to assert that, in the first instance, the limb is rather elongated than shortened.

"The shortening of the leg, in a recent case of fracture of the neck and upper part of the femur, that is, after the first twelve hours, will rarely exceed an inch and a half, and will seldom be found to arrive at that, when due care is taken in the measurement of the part, by placing the patient on the back, and the two anterior superior spinous processes of the ilium on a line with each other. A diminution of the length of the limb to the extent of three or four inches, cannot, I presume, take place in a case of fracture within the capsular ligament, unless the ligament be torn through, and then only as the consequence of a long continued and unopposed action of the muscles, combined with the weight of the body on the limb. The obliquity of the pelvis, clearly demonstrated by Mr. Hunter in his lectures, forty years ago, as giving rise, in disease of the hip-joint, to a shortening of the limb, may augment the computation, if the admeasurement be not made from the anterior superior spinous process of the ilium."

With regard to the question of the greater or less shortening of the limb, with reference to the diagnosis of fracture, within or without the capsular ligament, it is one which is not easily resolved.

"By some it is asserted, that the fracture without the ligament is usually attended by a greater shortening of the limb, whilst the reverse is steadily maintained by others. This difference of opinion on an apparently mere matter of fact, would seem to imply great want of attention, but it really arises from the complicated nature of the subject; the greater or less diminution of the length of the limb not de-

pending, as the preceding case, and dissection would show, on the circumstance of the fracture being within or without the capsular ligament, but on the precise nature of the fracture in either of these parts. If the solution of continuity of the cervix and its investing membranes be not complete, as in some of the instances already referred to, a shortening of the limb may not take place. The same thing may occur if the bone be broken horizontally or diagonally, so that the upper portion prevents the rising of the lower; or the shortening may only be perceived after a lapse of several days. If, on the contrary, the fracture be effected with great violence, the lower portion of bone may be driven above the upper, or the capsular ligament may be torn, and the bone pass through it; in either of which cases, the shortening of the limb at the moment may be considerable."

If, however, the fracture be exterior to the capsule, but diagonally in the direction of the trochanters, the tendon of the glutous medius, retains independently of the attachment of other parts, "the separated portions of bone nearly in contact, and, being attached to each, prevents the material elevation of either, and there is scarcely any shortening of the limb. But if the fracture be effected with great violence, the solution of continuity being complete, and external to the capsular ligament, although including as little as possible of the trochanters, there can hardly be a doubt that the diminution of the length of the limb may extend to, or even exceed two inches in the course of a few days, there being little obstacles to the muscles exerting an influence on the part nearly as powerful as in a case of dislocation upwards.

"The greater or less extent of shortening of the limb, considered separately, cannot form a criterion by which the judgment can be guided as to the immediate seat of injury. As a general rule, however, founded on experience, although admitting of considerable exception, I would say, the shortening of the limb within the first forty-eight hours, is less when the fracture is external to the ligament, than when it is within it; from the circumstance of its being most frequently diagonally through the trochanter, as in the instances adduced."

Pain, swelling, soreness, and contusion, in a greater degree than usual, is a sign of fracture, external to the ligament rather than within it. The crepitus cannot always be distinguished; the change of position in the trochanter, is often so trifling and not easily ascertained, and the alteration of its motion on rotating the knee inwards, is often unsatisfac-

tory. With regard to the mobility of the limb, in fracture, and its immobility in dislocation which have been, till lately, considered as diagnostic signs of these two kinds of injury, it should be recollected that Mr. Todd mentions, "in the 3d volume of the Dublin Hospital Reports, that Mr. Cusack and himself had each a case of dislocation, in which the limb admitted of an extensive degree of motion, a fact which demands attention, as showing that the judgment must be formed from comparison. In a case of fracture, motion *can* be fully accomplished in every direction, although it is sometimes attended by great pain. In dislocation, motion cannot be given to the limb in every direction to the same extent, and least of all towards complete abduction. The shortened limb in dislocation cannot be restored to its proper length without the application of the force of several persons; in fracture it may be readily accomplished by the surgeon alone. In dislocation the limb once restored to its proper length, remains so; in fracture it is very soon retracted or shortened as much as before."

The paper of Dr. Hall, on the loss of blood, contains some interesting matter: speaking of syncope, he states, that "Dr. Kellie observes that 'fits resembling apoplexy and epilepsy, as well as fits of syncope, occasionally supervene to venesection at the arm;'* and Dr. Armstrong states, that 'bleeding to syncope in young children may sometimes lead even to fatal convulsions.'"†

The loss of blood is also attended, sometimes by remote effects, which appear often in diseases, for which this remedy is used, and which, as they show great debility, are evidences, that its use should be suspended immediately: after ordinary syncope from bleeding, the patient recovers gradually, and without reaction. The appearances, however, are very different, "if, instead of one full bleeding to syncope, or of a profuse hæmorrhagy, and even protracted syncope, the person be subjected to repeated blood-lettings or to a continued drain. In this case, within certain limits, the pulse, instead of being slow and feeble, acquires a morbid frequency and a throbbing beat, and there are, in some instances, all the symptoms of excessive re-action of the system, which it is my object now to describe.

"The state of excessive reaction is formed gradually, and consists, at first, in forcible beating of the pulse, of the caro-

* Edinb. Med. Chir. Trans. Vol. I. p. 105.
† On Puerperal Fever, 2d edit. p. 191.

tids, and of the heart, accompanied by a sense of throbbing in the head, of palpitation of the heart, and eventually perhaps of beating or throbbing in the scrobiculus cordis, and in the course of the aorta. This state of reaction is augmented occasionally by a turbulent dream, mental agitation, or bodily exertion. At other times it is modified by a temporary faintness or syncope. In the more exquisite cases of excessive reaction, the symptoms are still more strongly marked. The beating of the temples is now accompanied by a throbbing pain of the head, and the energies and sensibilities of the brain are morbidly augmented. Sometimes there is intolerance of light, but still more frequently intolerance of noise and disturbances of any kind, requiring stillness to be strictly enjoined, the knockers to be tied, and straw to be strewed along the pavement. The sleep is agitated and disturbed by fearful dreams, and the patient is liable to awake in a state of great hurry of mind, sometimes almost approaching to delirium. In general this is slight, but occasionally severe and even continued. More frequently there are great noises in the head, as of singing, of crackers, of a storm, or of a cataract; in some instances flashes of light are seen. Sometimes there is a sense of great pressure or tightness in one part or round the head, as if the skull were pressed by an iron nail, or bound by an iron hoop.

"The action of the heart and arteries is morbidly increased, and there occur great palpitation, and visible throbbing of the carotids, and sometimes even of the abdominal aorta, augmented to a still greater degree, by every hurry of mind or exertion of the body, by sudden noises or hurried dreams and wakings. The patient is often greatly alarmed and impressed with the feeling of approaching dissolution. The state of palpitation and throbbing are apt to change, at different times, into a feeling of syncope. The effect of sleep is in some instances very extraordinary; sometimes palpitation, at other times a degree of syncope, or an overwhelming feeling of dissolution. The pulse varies from 100 to 120 or 130, and is attended with a forcible jerk or bounding of the artery.

"The respiration is apt to be frequent and hurried, and attended with alternate panting and sighing, the movement of expiration is sometimes obviously and singularly blended with a movement communicated by the beat of the heart; the patient requires the smelling-bottle, the fan, and fresh air. In this state of exhaustion, sudden dissolution has

sometimes been the immediate consequence of muscular effort on the part of the patient.

"The phenomena of excessive reaction are mostly observed in young persons of robust constitution, who have been subjected to repeated blood-letting. In infants, in feeble persons, and in rather advanced years, reaction after loss of blood is for the most part defective. In this case the patient long remains pale, thin and feeble, and becomes faint on the slightest occasions; the pulse is frequent, but feeble and perhaps irregular, and we look in vain for the throbbing and palpitation observed in the young and robust. This state either gradually yields to returning strength, or subsides into the state of sinking. In the study of the effects of loss of blood it is particularly necessary to bear in mind this difference of the phenomena arising out of the previous state of the constitution, whether of vigour, or of feebleness."

After bleeding, sometimes the state of reaction is succeeded by sinking, of which the following case is a good example.

"Mr. C. C. aged forty, of an extremely muscular and robust make, was returning from Nottingham into the country, on the 3d of October 1821, when his horse reared, and fell backwards upon him, fracturing the third and fourth ribs of the left side. He was taken to an inn, and I saw him with a surgeon early on the following morning. He then suffered extreme pain of the side; there was a distinct crepitus but no emphysema; the face was somewhat bruised, swollen, and ecchymosed; the pulse was 100, and strong. Sixteen ounces of blood were taken from the arm, a dozen leeches were applied to the temples, and the same number over the fracture of the ribs; the motions of the chest were restrained by a tight bandage; calomel and purging medicines were freely given. At noon sixteen ounces of blood were again drawn from the arm, and a surcingle was applied round the chest.

"During the whole of the 5th of October, the second day after the accident, Mr. C. appeared to be going on well, but at night a violent attack of pain of the side induced him to bleed himself; this was done to syncope, and as a large wash-hand-basin was used to receive the blood, its quantity was not known, but must have been very considerable. Seventeen leeches were then applied to the side and shoulder, with great relief. The surcingle, which had been removed, was re-applied, and the mercury and purgatives were continued. Early on the morning of the third day, there was

another violent attack of pain of the side with dyspnœa; a messenger was despatched for the medical attendants, but before their arrival Mr. C. had again bled himself, and taken away sixteen ounces of blood, unable to endure the pain. In another hour, eight ounces more were drawn, the patient sitting upright; this was followed by syncope and great relief of pain.

"On the fourth day, Mr. C. was removed a distance of about one mile to my house, and bore the journey on a litter extremely well, having previously lost a teacup-ful of blood; he expressed himself as feeling better than at any time since the accident. In the evening an increase of pain took place, and about seven ounces of blood were taken with great relief. In all it would appear that Mr. C. lost at least one hundred and twenty ounces of blood.

"On the fifth day we were joined in consultation by an eminent physician and surgeon. There was much pain of the side, and it was at first proposed to take away more blood; but I had observed some of the symptoms which I knew to indicate reaction from exhaustion, and the venesection was omitted.

"On the sixth day, the following circumstances were noticed. There was some degree of dyspnœa and of pain in the side, and the patient had removed the surcingle in the hope of obtaining relief; the mouth was affected with ptyalism. The pulse was 100, and had acquired a peculiar jerk; there was violent throbbing of the carotids, a pulsatory pain of the head, intolerance of noise, and, in a slight degree of light; at one time in the morning of this day great agitation had been induced by a nock at the door. On account of the intolerance of sound, the pavement was directed to be strewed with straw, and the ringing of the bells of the adjacent church discontinued. The bowels were freely moved: a draught, with tinctura opii and spiritus ammoniæ aromaticus, was given, with broth, arrow-root, sago, &c.

"Seventh day.—The patient was rather better towards evening yesterday. All the symptoms of strong reaction continued as before. The head has been much relieved by the application of a cold lotion.

"On the succeeding day the pulse was 84 only, and had lost, in some degree, its peculiar jerk; the carotids beat less violently; the head was so much better as to render the lotion unnecessary; there was more tranquillity and some hilarity of mind. The aperients, the anodyne, and the nourishment were continued.

"I saw my patient about three o'clock A. M. on the ninth day, and I then heard the slightest degree of that crepitus in the breathing which I have already noticed as one of the first symptoms of sinking. The medical gentlemen met at nine, and the general symptoms were then so little changed that no degree of alarm was excited in their minds. I mentioned my fears, and the grounds on which they were formed. At this meeting cupping was proposed; but the changes in the patient were afterwards so rapid that brandy was recommended in the evening. The pulse was 110, in the middle of the day, unattended by its previous force and jerk, and easily compressible; the beating of the carotids had subsided; a slight degree of stupor was observed; on being left undisturbed the patient fell asleep and snored; there was some labour in the respiration, and a troublesome, dry, laryngal cough; although the bandage was loose, there was no pain of the side of the chest; the countenance was anxious. The symptoms assumed a more alarming form during the day; at night there was considerable stupor, and, when the patient was roused, a degree of delirium; during this sleep there was much snoring and puffing up of the cheeks in expiration. On awaking he would feel greatly concerned that he should have appeared to blow in your face. There was much flatulence; the motions were extremely offensive, and passed at each attempt to void urine.

"From midnight he could scarcely be roused, but if awoke he would speak collectedly, but in a hurried manner, and said he felt 'such a dying feel.' The pulse was about 120. At three o'clock, A. M. I saw my patient; there was little change in the pulse or other symptoms, but in a minute or two the pulse became slow, feeble and irregular, he altered rapidly, and I found that he was moribund; in a few minutes more he expired.

"On dissection the pleura was found morbidly red in the vicinity of the fracture, but not wounded; there was some effusion of lymph in its cavity. The right lung was found united to its contiguous pleura by old adhesions."

The bleeding was, in this instance, too excessive. The following case also gives a clear idea of the views of our author on this subject.

"Mrs. Burrows, aged twenty-eight, of a stout constitution. After delivery there was uterine hæmorrhagy, which continued to recur for the twelve subsequent months. It was then discovered that Mrs. Burrows laboured under polypus uteri. A ligature was applied, purgative medicines given,

and the patient presently recovered. The case is introduced in this place in order to present the detail of symptoms arising from a *continued drain* or loss of blood. There were, 1. beating of the temples, a sense of 'knocking' in the head, vertigo, dimness of sight, singing in the ears, terrific dreams, and starting from sleep. 2. Frequency of the pulse, pulsation of the carotids and aorta, fluttering and beating of the heart, faintishness, and a sense and fear of dissolution. The palpitation of the heart on awaking was sometimes such as to move the bed-clothes, the bed, and, it is said, even the door. 3. The breathing was short and hurried, sometimes with panting, sometimes with sighing. 4. There were urgent calls for air, for opened windows, and the smelling-bottle; and the nostrils and temples were required to be bathed with sal-volatile or vinegar.

"The countenance, prolabia, and tongue were pallid; the legs somewhat œdematous; the bowels were irregular, the secretions morbid. Once there was obstinate constipation; frequently the bowels were merely confined, sometimes with sickness, but always with an increase of all the symptoms."

Dr. Hall makes some remarks on the subject of the effects of further loss of blood, in cases of exhaustion from this cause, which are valuable. The symptoms of exhaustion he says, have frequently been mistaken for those of inflammation or other diseases of the head or heart. The lancet is often used under these circumstances improperly. However, says Dr. Hall, "at length I discovered, by careful observation, that the symptoms which were relieved, were those of reaction, and the mode of relief the substitution of syncope; that the relief endured as long as the state of faintishness continued, but returned as this state gave way to the rallying and reaction of the vital powers."

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Dr. Delagarde relates several cases of the simultaneous occurrence of small-pox and measles, which run their course together. A child was inoculated with the matter: on the eighth day, this infant, after a slight indisposition, took the measles. "On the fifteenth, having completely recovered from the measles, she became very feverish. Between this and the twentieth, she had several convulsions. On that day, small-pox appeared. The infant not having been near any other child with that disorder, it is thus proved, not only that the eruption was variolous, but that the fever was infectious.

"Still the difficulty remained of accounting for its origin, since no small-pox was known to prevail in the neigbourhood.

The parents and neighbours could give me no clue. Soon afterwards I heard that a child had recently died of combined small-pox and measles. Unable to trace this report, I concluded it was merely an erroneous account of the present case. Calling, however, with Mr. Daniell, on a female, one of his dispensary patients, she informed me that the child was her own. Of this case I can give no accurate narrative. The mother herself was dying, and the child had been visited by no medical attendant. Judging from her statement, I imagine the two disorders occurred in succession, not simultaneously. The child was taken ill some days before Brookes's and certainly died of small-pox.

"Yet even this was unsatisfactory, since the families lived at a distance from each other. No communication of the children was known, until I discovered that they had attended the same school, a circumstance of which their friends were mutually unconscious."

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Dr. Thomson relates a case of dry gangrene from ossification of the aorta, and one of the iliacs, in which a small circle of bone surrounded the calibre of the vessel.

This fact sufficiently proves the agency of the arteries in supporting the circulation. The following facts, on the subject of the dropsy of the uterus, are interesting; first, with regard to the case in question; the bladder adhered to the uterus, so that it was stretched and reached to near the navel, and would have been penetrated by the trocar, if the womb had been tapped; the uterus was not examined by the vagina, but the mouth of that organ was, after death, found to be completely obliterated. Other cases from authors are then given.

"Bonetus* gives the history of a case in which the uterus was enlarged to such an extent, that, to use the words of the author, 'puer decem annorum facile potuerit in eo delitescere.' The os uteri was closed by a round tumour, the size of a pomegranate, which was composed of a tenacious white concrete matter, resembling gluten. Hartmann† describes a case in which the mouth of the uterus was, also, stopped up by a swelling, the size of a goose's egg; and another, approximating in some degree to our case, in which he says, 'orificium uteri in solidum ligamentum impervium degenerat;‡' but the fluid, in this instance, was contained in two

* Anatomia Practica, lib. iii. sect. xxi.; obs. lv. § 8.
† Miscellanea Cur. Acad. Naturæ Curiosorum, Dec. 2. Ann. 1686. Obs. 67.
‡ Ibid. Obs. 68.

cells which did not communicate with one another. In a case dissected by Monro,* the os uteri was swollen, knotty, and scirrhous. Other cases are detailed in the collections of Haller, Borellus, and Lieutaud, Loder's Journal of Medicine, and the works of several other writers:† but the case which most resembles ours, although greatly exceeding it in the quantity of fluid contained in the uterus, which has fallen within the course of my reading, is one described by Vesalius,‡ in which the os uteri was firmly grown together, and the uterus contained one hundred and eighty pints of watery fluid.

"Some modern writers, however, among whom is Doctor Denman, have doubted altogether the existence of pure Hydrometra. A case which came under the notice of that celebrated accoucheur, terminated by the spontaneous discharge of the water per vaginam, followed by a membranous bag, which, being inflated, assumed the figure of the distended uterus. He, therefore, concludes, 'that what has been called dropsy of the uterus, is probably no more than one large hydatid.'§ It cannot be denied, that a large hydatid may distend the uterus, and put on the character of pure Hydrometra: but, it is equally certain, that water may be accumulated in the cavity of the uterus, independent of the presence of any hydatid, as illustrated in the uterus now on the table of the Society."

Some singular cases of destructive inflammation of the eye, and of suppurative inflammation of the integuments during the puerperal state, are given by M. Hall and J. Higginbottom: This affection, which appears to be entirely new, occurred from five to eleven days after delivery: "It has always been preceded by some serious indisposition: in one case there were all the well-marked symptoms of intestinal irritation, and of exhaustion from uterine hæmorrhagy; in a second there was continued and protracted diarrhœa; and in the others much fever, with derangement of the functions of the bowels. In one case the patient had been bled; in another calomel had been freely given; in a third opium; and in a fourth the spt. terebinthinæ. In these respects all the cases were dissimilar. In one remarkable circumstance,

* See his Collected Works, 4to.

† Those who are desirous of investigating this subject, may consult, for references, to recorded cases, Voigtel's Handbuchder Pathologischen Anatomie, vol. III. or Plouquet's Litteratura Medica.

‡ De Corp. Hum. Fabrica lib. v. cap. 9. p. 627.

§ Introduction to Midwifery, vol. I. p. 119.

however, they all concurred; the left eye, and not the right, was always the one affected. It may be remembered as a possible cause of this fact, if indeed it be not accidental, that patients are always delivered lying on the left side.

"In one case the eye was affected but a day or two, and but slightly, when the patient died. In two there was great chemosis, the transparency of the cornea was destroyed, and the eye appeared collapsed, during life; and in a fourth the patient survived the ulceration and sloughing of the cornea, the total destruction of the organ, and the subsequent healing of its anterior part.

"Soon after the appearance of the disease in the eye, there has also appeared a local inflammation situated in the integuments, and first observed on the hand, but found, on a careful examination, either at the same time, or soon afterwards, on the inferior as well as superior extremities. In one of the cases only, there was no such cutaneous inflammation; but the patient having been bled, there were inflammation and suppuration of the vein. In two of the cases the cutaneous inflammation was observed on the hands and feet, rather diffuse and little elevated, but extremely tender to the touch; in the fourth, that in which the patient survived the loss of the eye, the patches of inflammation were very numerous and extensive, and led to equally numerous and extensive formations of pus.

"All remedies appeared to be unavailing. Early bleeding, mercury, and purgatives, and afterwards bark and opium, were fully tried without effect. The sinking of the vital powers alone appeared to suspend the course of this terrible disease.

"From the preceding observations it may be conjectured that this morbid affection has a constitutional origin. This inference seems warranted by all the patients having previously experienced some indisposition, chiefly a deranged state of the function of the bowels, and by their all suffering from more than one local disease at the same time."

The cases are only five in number, of which a few are subjoined: as they were all fatal, the above description will be sufficiently explicit.

"Mrs. A. aged twenty-three, of a delicate constitution, was delivered, after a natural labour, on the 27th of October, 1823. Before the time of her confinement she was affected with continued diarrhœa, for which she took occasionally a dose of rhubarb. On the ninth day after delivery, an affection of the left eye was first observed; red vessels were seen

proceeding across the conjunctiva, and converging towards the cornea; the pupils were extremely contracted, and there was great intolerance of light.

"On the succeeding day the course of the enlarged vessels was completely obscured by great tumefaction of the tunica conjunctiva; the transparency of the cornea was somewhat lost, the pupil enlarged; the pulse was very frequent.

"On the third day of this disease the chemosis, or tumefaction of the conjunctiva, was greatly augmented. Large red vessels were observed passing in all directions; the cornea was still more opaque, uneven on its surface, covered with a film of mucus, sunk in the chemosis, and surrounded by a ring of ulceration about a line in breadth, and covered with white pus. The pupil was still more enlarged, but seen obscurely through the opaque cornea; there was still intolerance of light; and the vision was very imperfect. The eye-lids were greatly swollen, partly perhaps from the application of leeches; the pulse 144.

"On the fourth day the eye was nearly in the same state; the pulse was only 120, and the patient expressed herself as feeling much better.

"On the morning of the fifth day the pulse was 100, in the evening 120. During the night there had been slight delirium; the chemosis was less, the ulceration round the cornea greater, the cornea more opaque, uneven in surface, and irregular in form; the pupil could not be distinguished. A little pus was observed in the lowest part of the anterior chamber; there was less appearance of mucus over the eye.

"On examining the eye in the gentlest manner on the sixth day, the cornea gave way, and the aqueous humour and crystalline lens escaped and flowed down the cheek. The chemosis now subsided, and the remaining portion of the cornea collapsed.

"In a day or two afterwards chemosis increased, and there occurred great pain, redness and tumefaction, and complete closure of the eye-lids. This again subsided, and when the eye-lids could be separated, the eye-ball appeared of a brownish hue, the space previously occupied by the cornea presenting the appearance of a white ulcer. In the course of a week or two the swelling totally subsided, the conjunctiva became white, and the ulcer healed.

"About the second day of this affection of the eye, the wrist and arms became affected in five distinct points by a diffused redness and great tenderness. In the course of a few days suppuration took place, and each part required to

be opened by the lancet. Afterwards most copious suppurations took place in the integuments in different parts of the surface of the body, along the thigh and legs, in the axilla, and above the clavicle. These suppurations eventually exhausted the patient, and she died in a state of extreme feebleness and emaciation.

"This patient took opium for the diarrhœa, was bled and took mercury in the beginning of the affection of the eye, and afterwards had cinchona and wine."

"Mrs. C. aged 30, and delicate, was delivered on the 20th January, 1821, after a tedious labour, during which it was deemed necessary to take away fourteen ounces of blood, in consequence of rigidity of the os uteri.

"On the morning of the 21st, she was seized with much shivering, followed by great heat, sickness, and frequency of the pulse. An injection and opening medicine evacuated much hardened fæces, and afforded great relief. In the evening, however, there was great heat, restlessness, slight delirium, and head-ache, with faintishness on attempting to sit erect. On the 22d and 23d, the symptoms were much the same, but on the latter day there appeared some inflammation in the course of the vein from which she had been bled. On the 24th, 25th, and 26th, the general symptoms were less severe, but the inflammation pursued its course along the vein. On the morning of the 27th, the eighth day from delivery, there appeard slight inflammation of the left eye, which increased during the day. The inflammation of the vein increased rapidly, being attended by pain, tenderness on pressure, swelling, and a watery discharge from the punctured orifice. Amongst other remedies calomel and opium were given every three hours, and ice was applied locally. On the 28th, the conjunctiva was much tumefied, and the cornea somewhat opaque. On the 29th, the cornea was still more opaque and sunk in the swollen conjunctiva. On the 30th the eye appeared to have burst, the cornea being still more sunk and shrivelled; the arm and axilla were much swollen; the patient was evidently sinking, and she died in the night.

"No examination of the body could be obtained."

"Mrs. E. aged 22 years, was delivered, after a rather lingering labour of sixteen hours duration, on Wednesday night, May the 25th, 1825. The succeeding day was passed without any symptom of complaint; but the patient had exerted herself far too much in seeing visitors, and care of the infant.

"Early on the Friday morning she was taken with shiver-

ing, which was followed by profuse perspiration and a rapid pulse. The bowels were freely moved, and were in the most healthy state, having been particularly attended to during the whole of her pregnancy. The perspiration gradually subsided, but on Saturday morning the pulse still remained at 120, and the abdomen was rather full, and painful, and tender under pressure, on the right side. These appearances of abdominal affection were, however, entirely subdued by the application of leeches, and by again evacuating the bowels. In the evening, and on Sunday morning, there was no tenderness or fulness of the abdomen at all, but the pulse remained frequent, though less so than on the preceding day.

"In the evening of Sunday the pulse became more frequent, and the abdomen again tumid, and two red tender spots appeared in the inside and fleshy part of the left forearm. Very early on the Monday morning the pulse was found to be still more frequent, and the abdomen more tumid, while the vital powers were evidently failing. The bowels had been evacuated during the night freely and without uneasiness by the spiritus terebinthinæ. The arm remained as before. About eleven o'clock A. M. the left eye was observed to be inflamed, and the tunica conjunctiva to be red and tumid. The state of sinking increased rapidly, and the patient expired at one."

Another case is communicated by a surgeon of the same place.

"'About eighteen years ago I was requested to visit the wife of William Aikin, of Eakring, aged 36, who had been confined about a week. Her labour had been tedious, and much hæmorrhagy followed the extraction of the placenta. She had complained of great pain of the head and eye-ball for several days. She had taken opening medicine, which acted well. On inspecting the eye I found that it had already burst, that its humours had escaped, and its coats collapsed; leaving only the appearance of a thick white substance on its anterior part. In addition to this affection of the eye, there were two large abscesses, one situated in the left axilla, the other above the calf of the left leg, which on being opened discharged much sanious matter. The patient was in a state of stupor, quite insensible to any object around her. I prescribed the cinchona with camphor, and port wine in gruel. In a few days diarrhœa came on, and soon afterwards the patient expired.'"

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A case of epilepsy is related by Dr. Burnett which was

attended with slowness of the pulse; sometimes 14 in a minute: the patient was relieved by the use of purgatives and tonics, but the disease grew worse; the issue was not known, as the patient removed from the neighbourhood before he got well. Morgagni relates several cases of the same nature.

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Dr. Johnson relates the case of Mrs. A., who complained since the birth of her first child of nervous and hysterical symptoms; after an inflammation of the womb, she grew worse; the parts of the skin exposed to the air and light, her face, neck, and hands, became like that of a dark mulatto, though in other parts of her body, it was of the usual fairness: the symptoms are thus more particularly related:

"Her appetite was voracious, being hungry in the course of a few hours after a hearty meal. She had a sensation of sinking at the stomach when empty, but no distinct pain. She was easily put out of breath by any corporeal exertion, though she could expand her chest, and take in a very large volume of air without the least difficulty. Her bowels were not disordered, and the secretions were natural. Her muscular strength was exceedingly impaired, notwithstanding her voracious appetite, and she felt an indescribable mal-aise and restlessness, for which she could assign no reason. Her tongue had a very remarkable appearance, being rough and chapped. Her pulse was habitually so feeble, as to be with difficulty distinguished at the wrist; but her most distressing complaint was what she called 'fits of heaving,' quite different from sickness of stomach, and never attended with vomiting or any discharge from that viscus. I saw her in one of these fits, and it appeared more allied to globus hystericus than any thing that I could compare it with. These fits were attended with faintness, and once or twice with syncope. She had consulted many medical men, and taken various medicines, but with little or no benefit."

The pulsations of the heart could not be felt in any part of the thorax, which presented no other peculiarity.

"With the warm weather, in the early part of June, her debility made rapid progress, and the 'fits of heaving,' became more frequent and distressing. She now lost her appetite, and on the nineteenth of June she expired, after suffering dreadful restlessness, constant jactitation, and sense of unutterable distress internally, for three or four days previous to her decease."

"*Examination.*—Every organ and structure in the body ap-

peared in a state of the most perfect integrity, except the head. The *right* ventricle of the heart was enlarged in its capacity, but its parietes were exceedingly extenuated, being not thicker, in any part, than the seventh or eighth of an inch. The parietes of the *left* ventricle, on the contrary, were full three quarters of an inch in thickness, and the capacity of this chamber was so much lessened that it would scarcely admit the fore-finger. There was nothing remarkable in the valves, or in the great vessels leading from the heart; with the exception of the cava inferior, which was of a most extraordinary size."

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Dr. Elliotson has given the subcarbonate of iron in doses of two, three, and even four drachms every four hours, and without gradual increase of the dose, or previous preparation of the system. It produced no bad symptom; pain and heat of the head on the contrary, were relieved by it; it removed diseases in which smaller doses failed. The preparation used, was the carbonate procured by precipitation.

He also states, that a scruple of the sulphate of iron made into pills with the extract of gentian, may be taken without any sensible effect. He succeeded in a case of paralysis agitans, by giving half a drachm of the subcarbonate of iron every eight hours. The symptoms of this case were as follows:

"'Joseph Deacon, aged twenty-eight years, ill one year. Constant shaking of the legs and arms. The intensity of the tremor varies. Till within the last week, the agitation would sometimes cease for a few hours or even a whole day, but for the last week has been constant. At first, sometimes only one leg was affected, sometimes both. He has pain in his head, loins, and legs, and vertigo, and cannot fix his attention.'

"I at first brought out and maintained a copious crop of pustules on his legs by the ointment of tartarized antimony.*

"He next took one ounce of oil of turpentine, and then two ounces every other day for above a week.

"He then went through a course of sulphate of zinc, taking at first one grain, and at length seven grains and a half every six hours, but the dose was reduced to six grains on account of nausea. During this course, his head was kept constantly wet with a cold spirituous lotion, he was cupped on the occiput, had a blister on the forehead, and another on the occiput kept open nearly a month with sabine ointment, and

* A remarkable effect of the free application of this remedy to the lower extremeties, is the production of pustules upon the genitals.

eight leeches applied daily to the temples, from the twentieth to the thirty-first of May, and took frequent purgatives: yet he was no better."

In union with the subcarbonate, were prescribed leeches to the temples every other day, and a perpetual blister to the forehead, to relieve the headache, vertigo, and smarting of the eyes. The dose was gradually increased, and the leeches and blisters continued. In about a month "he felt so satisfied that neither the blisters nor leeches had procured the least relief to his headache, vertigo, or the pain and smarting of the eyes, and these symptoms had so clearly not been aggravated by the iron, that the former were discontinued, and the dose of the latter augmented to two drachms and a half three times a-day."

In seventeen days more he left the hospital perfectly well, the dose being increased to three drachms four times a-day.

"I must mention that a case of the same nature in an old woman lately occurred to me, and was not at all benefited by the remedy, though pushed to the greatest extent, and long continued: but it was of several years' standing. Sometimes the bowels are obstinately sluggish, and purgatives, and even bleeding are very serviceable."

Dr. Elliotson succeeded in five cases of chorea with large doses of the subcarbonate of iron, and with regard to its use, he subjoins the following remark:

"These are *all* the cases of chorea in which I have employed the medicine, with the exception of two that continued so short a time under my care, that its powers were not put to the test. But, although it has so strikingly cured all these cases in succession, I do not extol it as a specific. It may, indeed, sometimes be safely given, even when the head aches, the tongue is foul, and the bowels torpid, but the removal of blood and the use of purgatives may sometimes be the correct plan of treatment, at least in the first instance, and I, when a student, saw a young woman labouring under the disease, die apoplectic. Besides, there are some cases of chorea probably connected with organic disease of the brain."

"I have failed with the largest quantities of iron in epilepsy, cancer, and lupus, but found it very beneficial in chronic neuralgia, and various chronic ulcerations and chronic pustular diseases, as well as those diseases of debility in which it is so justly celebrated.

"Whether the sulphate would answer as well as the subcarbonate in neuralgia and all other cases where the latter is beneficial, I cannot say, but the following case illustrates its use in chorea.

"Oct. 2, 1823. Caroline Marks, aged four years, ill with chorea one month. Cannot walk. *Is a fat rosy-faced child.*

"I prescribed one scruple of the subcarbonate of iron every six hours, but, on account of her plethoric state, four leeches also to the temples, on the day of admission and the subsequent day; and on the third and fourth she took four grains of the submuriate of mercury. On the seventh she could walk, but on account of the difficulty of making her swallow physic, the doses were now ordered every eight hours only, and increased to half a drachm. Scammony and submuriate of mercury were likewise directed to be taken when necessary. This, however, seldom happened.

"On the fourteenth she was worse, but had generally refused to take her medicine. I therefore substituted the sulphate, and prescribed three grains three times a-day.

"On the eighteenth she was much better, and the bowels had been so regular that she had but once required the cathartic. On the twenty-first she was free from disease, and dismissed with a supply of the sulphate for a fortnight."

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Mr. Hewitt relates five cases of hydrophobia, in one of which, salivation succeeded; in the others, who died, the glottis and pit of the stomach were the parts affected.

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The papers on the fallopian tube pregnancy, on the ligaments of the ossicula auditus, on the saliva during a mercurial salivation, on the fungus hæmatodes of the brain, are omitted, as no practical inference can be drawn from them.

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The description of Dr. Brenner's surgical instrument, cannot be understood without a plate. The case of hydrophobia by Dr. Gregory, which he thinks from the tumefaction of the parts about the fauces should be classed under quinsy, does not accord with an enlarged view of the subject. Signs of inflammation in hydrophobia have been found in many parts of the body.

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## Art. XVII. *New-England Journal of Medicine and Surgery, for Oct.* 1825.

This interesting Journal commences with a case of misplaced secretion of urine, by Salmon A. Arnold, M. D. The patient, of a sound constitution, was taken, in 1820, with hæ-

moptysis and suppression of the menses. She was bled profusely, and vomited repeatedly, by several empirics: great debility, falling down of the womb, and suppression of urine, were the results. In this state she continued for two years and a half, requiring the removal of the urine every twenty-four hours by the catheter. In September, 1822, the urine was secreted by the right ear, after the use of the catheter had been neglected for seventy-two hours. It was discharged by drops, once a day periodically for several days, in larger or smaller quantities; at last it ran in a stream, about the size of a crow-quill. It was sometimes accompanied by a severe pain in the eye and ear, swooning, insensibility, convulsions, delirium, incoherent conversation, wit and humor: loss of vision in one eye, and of hearing in one ear. The urine was also discharged from the left eye, from the stomach, from the right breast, from the navel, and from the nose. The urine discharged in this irregular manner contained urea; and that from the bladder turned black, if retained for some time, and deposited a sediment resembling black sand. In the summer of 1824, she had become so well as to ride out. The case was witnessed by Dr. Webb, who occasionally attended her; its authenticity, therefore, is undoubted, if the respectability of the reporter required confirmatory testimony.

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A case of extirpation of the sac of an ovarian and dropsical swelling follows, which, though unsuccessful in its result, is exceedingly interesting.

The subject, aged forty-eight, was generally in pretty good health, though occasionally slightly indisposed. She was first seen by the writer in January, 1824. Her health, for four or five months previous to the visit, had declined, "being subject to pain and distress in her left side, or iliac region, attended with tumefaction; also febrile symptoms, costiveness, dry skin, &c. Upon examination, I experienced no difficulty in considering it a case of ovarian dropsy. The tumour had already reached the right hypochondrium and covered the margin of the liver, the most elevated however on the left side, and extended quite from the hypogastrium to the epigastric region, evidently of an oblate spheroidal form. No scirrhosity could be felt internally, neither were there any tuberculated appearances externally. Only a few simple medicines were advised, and the case left for consideration.

"On the 26th of February I saw her again; the intumes-

cence had increased, so that it was very equal over the abdomen; the distress was considerable, quite sufficient to warrant the diminishing of the tumour by means of the trocar. From the usual place for the paracentesis of the left side, twelve and a half pounds of a fluid were taken with common ease. It was a little thicker than the fluid of ascites usually is, but very much resembled it. It did not have the properties of this, for it would not coagulate by dilute sulphuric acid, nor by heat at the boiling point. This confirmed us in the belief of its being exhaled from the mucous membrane of the ovarium. The tumefaction subsided in an equable manner, and although a slight fulness remained, we could not discover any hardness resembling scirrhosity. The patient was very much relieved, but as we expected, only for a short period. In thirty-six days after this she required to be tapped again, and this was done five times by the attending physician by the 4th of June. The periods of its necessity occurring at shorter intervals, so that from the 26th of February to the 4th of June, 115½ lbs. were taken at six tappings."

On the 20th of May, there was much distress in the region of the pelvis, with severe throes, and a tumour presenting in the vagina, produced by a large fœcal mass, as hard as an unburnt brick, in the rectum. It was extracted with an iron spoon, which was slightly flattended at the sides. In June the sac was extirpated, by first making an incision in the linea alba, which exposed the tumour.

"Instead of finding a thin, pliable, membranous sac, as we hoped, a dark, strong, thick wall of a tumour exhibited itself, very much of a mahogany colour, or rather showing much the appearance of a large bottle of the elastic vegetable gum. The conical part of the tumour evidently possessed considerable thickness, but the base was discovered to be very thick and solid. The fallopian tube showed itself, considerably extended, but preserving its usual tortuous course, a little enlarged, and at the end the fimbriæ turgid and red, about the size of a mulberry."

The sac was punctured; as the contents were viscid, the discharge was slight; an incision was then made into it. "As the sac was every where free from adhesions, we proceeded to take off portions of the superior part. It was about half an inch thick towards the superior part, appeared to be vascular, but discharged only a little blood. It did not very readily collapse after the contents were evacuated, but inclined to keep its shape, otherwise than the sides would fall

slowly together at the superior part. In pursuing the dissection we could have access to about two-thirds of the sac towards its base, and it was divided at this point. The thickness of its walls was about three-quarters of an inch, say half the way, and the remainder about an inch. It was very vascular, and bled freely, especially at the thickest part, which was the exterior part or left side of the tumour. We had to stop the incision and pass long stitches through the upper edge of the remaining part of the sac, by carrying the ligatures through on each side at about every inch; in this manner we inclosed the whole substance in continuous interrupted sutures. As we cut we tied, until the upper section was removed. Some portion of this section did not require the ligatures. The remaining part of the sac exhibited rather stubborn walls, having some resemblance to the sight to a thick dish of domestic earthenware, smooth on both sides, The base was fixed on the solid parts opposite the natural site of the ovarium. Instead of a small pedicle as we hoped, the tumour sat directly on the solid parts contiguous to the os innominatum, occupying a space of about four and a half inches in diameter. Upon examining the lower chamber of the abdomen, the uterus appeared quite natural, but rather small; a cluster of scirrhosities was discovered on the right side of the uterus and in close contact with it, three in number. No further morbid appearances at this time, except that the left fallopian tube, which was removed, contained four or five calculous granulations about the size of a barley corn. The hydropic sac seemed to us to possess a carcinomatous appearance, but altered by the morbid secretion into its cavity occasioning distention."

"The ligatures were left long enough to reach without the wound, and came away in four or five days."

Fever, and some tetanic symptoms, supervened: she died six days after the operation. The omentum was found to be inflamed.

"The base of the sac that was left had discharged the ligatures and contracted at the edges in such manner as to adhere and form a sac containing about a pint of purulent matter. No mention is made of any lodgement of matter in the pelvis, it having free vent at the wound, and during the latter part of the time mended in quality and diminished in quantity. Some adhesions of the uterus to the bladder, and the fallopian tube, about half an inch in diameter, and very solid. Intestines, mesentery, peritoneum, &c. quite free from inflammation. The tuberculated ovarium before men-

tioned is stated to have been about the size of a goose egg, hard almost as cartilage."

The operation of opening the cavity of the abdomen has now succeeded so frequently, as to render its success no longer problematical: not to mention the frequent success of the reduction of strangulated hernia by the use of the knife, the happy termination of the Cæsarean section is of itself sufficient to demonstrate the propriety of penetration into the peritonial cavity. Dr. Hull has stated, that of 231 cases, 139 have been successful. A tumour has been removed from the cavity of the belly by that distinguished surgeon, N. Smith, of Yale College. Dr. M'Dowell, of Kentucky, has removed the ovary three times, with success. Mr. Lizars, of Edinburgh, once; besides he has performed several other operations, in which death did not follow from opening the cavity. L'Aumonier, of Rouen, also extirpated the ovary, with success, fifty years ago. With the consent of the patient, we should think this operation justifiable, as death without it, from the diseased ovary, is certain, and is attended with slow and protracted suffering.

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Reviews and miscellaneous intelligence conclude the number.

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ART. XVIII. *The New-York Medical and Physical Journal, No.* 14, *for April, May, and June.*

Dr. Stevens, of New-York, gives a description of an instrument for diminishing and extracting the head of the fœtus.

"The cutting scissors that are commonly employed for the purpose of making an opening into the head, appear to me to be a very ill-contrived instrument, not well adapted to make a clear cut through the scalp, or to be introduced into the vagina without unnecessarily exposing the mother to injury. I have divided the scalp with a large spear-pointed gum lancet; and in another case, with a scalpel, of which all the edge except that within half an inch of the point was covered with a slip of linen wound spirally around it. Either of these instruments may be thus introduced safely and conveniently, upon the fore-finger of the left hand, and made to divide whatever soft parts may cover the presenting bone. If the vertex present, it will be proper, for reasons hereafter

to be mentioned, to avoid cutting directly upon it; with this exception, the sutures are the most eligible place for making our incisions, for this obvious reason, that we reach the brain without dividing any other than soft parts. Scarcely any case will occur in which an opening into the head is called for, in which it will not be proper to assist the expulsion of the brain, and advance of the head at least, by the introduction of one or more fingers into the artificial opening thus made. It will often happen, however, that the exhaustion of the patient, or other circumstances, render it necessary or desirable that the head of the child should be diminished without loss of time. In what way may this object be most conveniently effected? accident suggested to me the use of a hollow cylindrical tube, not unlike a candle-mould, with a portion of its circumference cut in the direction of its axis, and turned up.

"This instrument is introduced with the greatest ease and safety, and at each introduction will discharge an ounce or more of brain. The simplicity of such an instrument renders unnecessary any explanation of the mode of using it, or its advantages. The contents of the fœtal head may be extracted through one of the orbits of the eyes, through the mouth, occipital portion, or vertex, without the slightest injury to the mother. But it sometimes happens, that beside diminishing the fœtal head, it is necessary to exert some degree of traction, in order to its delivery. In what way may such traction be most safely and conveniently made?"

This question Dr. Stevens answers, by directing us to hook the crotchet in the falx of the dura mater; the vertex is steadily maintained in its place, and by twisting the crotchet it is lessened in size, and there is no danger of slipping, of splintering of bone, and no displacing of the head from the axis of the pelvis.

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Dr. Willoughby, in a communication on fever, gives a decided case of endemic disease in the interior, in which there was a black discharge like coffee-grounds from the stomach.

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Dr. Ward, an interesting practitioner of New-Jersey, gives the following directions for the use of the ergot, which will be found to be valuable, and we think should be generally known.

"First. Ergot ought never to be given until the os uter is completely dilated, excepting in one or two cases, which I shall mention hereafter.

"Secondly. It ought never be given in cases of impaction, or where there is a disproportion between the head and pelvis. If the head of the child appears to be wedged in the pelvis, so that the natural pains have but little effect on it, and you perceive a soft tumour formed, or forming on the presenting part of the head, although the os uteri may be dilated, the probability is that the child will die before it is expelled, if ergot is given.

"Thirdly. I need scarcely mention that it would be highly improper to give the ergot in all preternatural presentations, excepting breech and footling cases. Should the presentation of the child be such as to render it necessary to alter its position, it is certain that the uterine relaxation is highly necessary to facilitate the operation.

"Notwithstanding the above precautions, there are some cases in which the ergot may be advantageously used, and, I should think, be a powerful means in saving the life of the parent.

"First. In alarming uterine hemorrhages, which sometimes take place before delivery; whether it takes place in consequence of a detachment of some portion of the placenta, it being attached to the fundus uteri, or whether it be owing to a separation of its attachment over the orifice of the uterus. In the former of these occurrences, I have no doubt the ergot would be beneficial. The hemorrhage in this case frequently takes place without pain, and sometimes continues alarming until pains come on, which generally put a period to the discharge. In these alarming cases the life of the mother is principally to be regarded.

"Secondly. The ergot is indicated, and may be given to those females that are subject to hemorrhage immediately after the expulsion of the placenta. The cause of this hemorrhage must be a want of contraction in the muscular fibres of the womb, and I think it would be proper to give the ergot a few minutes before the child is expelled.

"Thirdly. In the early stages of pregnancy, when a profuse hemorrhage comes on and abortion appears to be inevitable, and the ovum is not expelled for want of strong pains, I think the ergot might be advantageously given.

"Fourthly. In restricting the use of ergot in preternatural presentations, I excepted breech and footling cases. Here it is well known to those who are conversant with cases of this kind, that children are sometimes lost in spite of all our efforts to save them, and generally for want of quick and powerful pains after the body of the child is expelled. If

the head is retained a few minutes in this situation, with the funis compressed, and the circulation interrupted, the child will be lost, and it is not in our power to extract it without pain, unless the head is small and the pelvis capacious.

"Fifthly. The ergot may be advantageously given in all cases of arrest where the head of the child has descended into the pelvis, the os uteri is dilated, and the external parts appear to be relaxed, but for want of pains it is not expelled.

"Sixthly. There is another alarming and dreadful disease to which pregnant women are liable, and in which I think ergot may be serviceable. I mean puerperal convulsions which take place before delivery. I have seen them come on at seven months, and at the full period of nine months, without any preceding symptoms of labour. In both cases the convulsions continued until the women were delivered. In the former case they continued twelve hours with a convulsion every hour before any labour pains were perceivable. After that period she was delivered, and had no return of them. In the latter case the convulsions returned without any pains or dilation of the womb, but not so frequently as in the former case, and continued forty-eight hours. She was then delivered, and although she had no more convulsions, she died the fourth day afterwards. If the ergot in these dreadful cases will produce uterine contractions, and shorten the disease, it certainly ought to be given.

"Seventhly. Ergot may be given with advantage when the funis umbilicalis descends before the head of the child. This I believe is not a frequent occurrence. During a practice of near thirty years, I have never had but six cases. Four of these terminated fatally to the child, in consequence of the funis being too long compressed after the head had descended into the pelvis. The last was saved, I believe, by the administration of ergot. When I discovered the funis before the head of the child, the membranes were ruptured, the pains slow and lingering, and the os uteri nearly dilated. I immediately gave twelve grains of ergot. The pains soon became strong and frequent, and continued so about ten or twelve minutes, when the child was expelled alive. The ergot I think ought to be given as soon as the os uteri is fully dilated, that the pains may become strong and frequent, while the head is passing through the pelvis; during which time the circulation in the funis is entirely interrupted, unless the head is very small, and the pelvis capacious. It may not be amiss to observe, that if no pulsation is discovered in the cord during the examination per vaginam, we may be certain

that the child is dead, and must be contented with permitting the labour to proceed as if the funis had not descended before the head."

These passages afford a good specimen of the author's excellent matter and manner.

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Dr. Stevens gives a valuable history of a rare disease, which was described in a former number of this Journal—fissure of the rectum. By the violent action of the sphincter from irritation, the inner coat of the rectum is torn during the evacuation of the feces, longitudinally. The exposed surface irritates the sphincter; the wound is torn wider:—it is cured by a complete division of the sphincter. The wound is dressed afterwards with lint.

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A curious case of absorption of the cutis, which took place without pain, is also related by Dr. Stevens, in which the cuticle remained entire. Near the large joints, on passing the finger over them, the deficiency of the skin was very evident; its edges could be brought together; they appeared to be filled with a gelatinous matter. It occurred in a typhous fever.

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ART. XIX. *The New-York Medical and Physical Journal, No. 15, for Aug. Sept. and Oct.*

THE Egyptian ophthalmia has appeared in the north. The interest excited by this most terrible and affecting disease on the old continent, will soon be felt in this country, as our sharp-sighted brethren in New-York are beginning to experience its dreadful effects. With their usual acuteness, perseverance, and industry, in sounding the alarm, produced by the approach of this dreadful malady, they also give a cheering detail of success in its cure. Since the campaign of the French in Egypt it has claimed great attention, and more particularly as, in its purulent form, it is certainly contagious. Accordingly, in this number, two valuable essays are given on this subject; one by Dr. Kirkhoff, of the Netherlands; the other by the respectable Dr. Coventry, the late president of the Medical Society of the State of New-York. The first author treats the subject with great minuteness and accuracy; and, from his situation as physician to the military hospital at Antwerp, he had great opportunities of observing it. Im-

portation from Egypt, and the close leather stock worn by the soldiery, are the imputed causes; neither of which are admitted by the author. Pressure on the blood-vessels of the neck may predispose, but he thinks it does not produce it. Exposure to the hot burning sun, exciting the perspiration,—to the dust, &c. during the day, and to cold air in the night, which suppressed it,—are more probable causes. It is, therefore, to be attributed to the same causes as catarrh or dysentery. The disease, it appears, is produced by contact of the matter upon the surface of the eye, as was clearly proved by many experiments. A medical officer, who disbelieved in its communication in this manner, inoculated himself; the disease appeared in twenty-four hours, and he nearly lost his sight. Its most general origin, however, was from atmospherical vicissitudes, like the common catarrh, which we are rather astonished to see our author believes also to be communicated by contagion.

Itching, burning, fulness, and difficulty of motion in the eye, followed by a flow of tears, painful and feeble vision, are its first symptoms. Slow, sometimes rapid, beginning in one eye, sometimes in both, attacking every temperament and constitution, it was accompanied with more or less fever, and extended in some cases, to the interior of the eye, with swelling and eversion of the eyelids, contraction of the iris, insupportable pain in the head, and delirium. Pus in and behind the cornea, ulcers on the same structure, followed by cicatrices, also attended the violent cases.

It is consoling to learn that this terrible disease, so easily communicated by contact of the matter, as well as from epidemic causes, is entirely curable; and if the judicious treatment prescribed in this most valuable essay is accurately followed, the subscribers to this Journal will, we think, be satisfied, that the author's statement, with regard to his success, is entirely correct.

Lotions of rain water, a decoction of mallows, bathing the feet, quiet, darkness, low diet, succeeded in slight cases. The warm bath, used when the symptoms first appeared, arrested it; if later, it increased them. Emetics, also, at first suspended; but, if used after the inflammation had been established, it increased it.

When the inflammation was violent, darkness, erect position, cool air, quietness, repose, seclusion, bleeding from a large orifice, from the jugular vein or temporal artery, repeated as often as the severity of the disease required it, were the first measures. Purges of cream of tartar, warm baths

to the feet, in which mustard is mixed; bladder with ice to the head at the same time; injections of mild mucilaginous lotions under the eyelids, which are to be frequently sponged with the same infusions, to keep the eyelids from being glued together.

Emollient fomentations and cataplasms, ophthalmic ointments, and astringent, anodyne eye-waters, are in this stage hurtful. After blood-letting has been practised sufficiently in acute cases, leeches may be applied to the temples, and never to the eyelids, except when the inflammation is swollen and puffed out, or when the inflammation is losing its acute character. As soon as the inflammatory stage is over, repeated scarifications relieve the tumefaction of the conjunctiva; where the lids are everted, it is sometimes necessary to remove a part of that membrane. If the iris is strongly contracted after the acute stage is passed, the application of compresses, wet with a strong infusion of belladonna, stramonium, or henbane, dilates the pupil and destroys the adhesions produced by the inflammation. Administered internally, it has the same effects.

As soon as the fever, pain, redness of the eye, the acridity of the discharge subside, and the matter changes its colour, becomes more abundant and thicker, the practitioner must stay his hand, and deplete the patient no more. The regimen must then be more tonic, the eyes must be washed with some weak aromatic infusion, as that of elder flowers, mint, &c.; laudanum, aqueous infusion of opium, and, if the irritability of the eyes be great, an infusion of hemlock, digitalis, or hyosciamus, laurel water, may be used. Cinchona, and other tonics, may be given when the disease is intermittent, and also in the chronic stage. Setons in the neck, the usual astringent collyria, made with sugar of lead, white vitriol, alum, with laudanum or opium, are then proper. Leucoma, ulcers of the cornea, tarsi, carunculæ lacrymales, or meibonian glands, relaxation of the conjunctiva, are best treated by the introduction between the eyelids, two or three times a day, of white precipitate of mercury, with a little of the aqueous solution of opium added, the use of calomel internally, and mercurial frictions to the temples. When the white precipitate ointment has lost its effect, a minute portion of corrosive sublimate is added to it. Here terminates the essay. The subscribers to this Journal will appreciate its value, not only from the circumstance that it is the result of observation made in a large hospital, but as it applies to a climate very like our own. The paper of the learned Dr. Coventry in

this number, realizes the importance of the above essay; as it describes the disease as it has actually appeared, in the western part of the state of New-York.

It is contagious, as non-intercourse with the sick checks its progress. With regard to the symptoms, this epidemic differs from that observed by Kirkhoff, except in the appearance of granulations in the interior surface of the eyelids. In one case, bleeding was practised to 150 ounces; the patient recovered rapidly. The application of saturnine ointments to the eyelids, Dr. Coventry is favourable to, as also blisters on the neck behind the ears: to both these Dr. K. objects. The blisters should be applied to the arms. Caustics are to be applied to the ulcers of the cornea, by a solution of nitrate of silver, weak red precipitate ointments, &c. as soon as the inflammation abates. Dr. C. prefers the application of caustic to the cornea to remove the protruded conjunctiva, to the use of the scissors; washing the lids every day after the application of the caustic, before they are permitted to fall into their place.

To cure the opacity, some stimulating collyrium is necessary; argent. nitratum, or perchloride of mercury, half a grain to the ounce of water, in mild cases, is applied with a camel's hair pencil.

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An alteration of structure, consisting of papillæ resembling the cauliflower excrescence in the uterus, extending for four inches up the rectum, from about two inches above the anus, completely obstructed the passage of fœces in a patient of Dr. A. L. Peirson, of Salem, (Mass.) The symptoms resembled those of piles, and the means used were ineffectual. Narcotics were principally given to abate the pain. A suppository of six grains of stramonium produced the most painfully relaxing effects on the rectum; it was all in vain; the man died.

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A scrofulous affection, consisting of two tumours; one involving the mesentery and a portion of one of the intestines; the other occupying the whole pelvis, and affecting the uterus, bladder, and rectum, is also given. For the dissection see the number.

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The venerable Dr. Nathan Smith, of Yale College, so long one of the highest ornaments of New-England, proposes an improvement in the operation of amputation, the object of which is to obviate the formation of the two projecting por-

tions of skin, which according to the present mode of operating, usually remain, one on each side of the limb, and render the stump liable to excoriation and inconvenience from an artificial limb. His plan also proposes to prevent the projection of the bone below the muscles, where it is covered only by skin and cellular membrane:—also to give a rule, by which the projecting flesh, which is intended to cover the bone, will when healed, form a round, solid and seemly stump, avoiding the too great projection of the bone, as in large limbs, and a large mass of flesh which falls below the bone in emaciated subjects, which is sometimes filled with matter during the cure. See the number.

Dr. Smith objects to the common tourniquet as worse than useless. He adopts the plan recommended by an operator in the city of Edinburgh—a common silk handkerchief tied loosely round the limb, passing a piece of wood a few inches under it, and then twisting it so as to form a quick compression. The common tourniquet acts too slowly, and arrests the blood in the veins as well as in the arteries. By elevating the limb a little, it is exhausted of its blood; the handkerchhief and the stick, by acting suddenly, then obviate this objection. In order to secure the loss of a small quantity of blood during the operation, he advises pressure on the artery, immediately before tightening the handkerchief, by turning the stick, at the same time elevating the limb. The common tourniquet would answer equally well, particularly as it effectually places the operation beyond every embarrassment, which might occur from accident, and as pressure on the artery and raising the limb to evacuate the blood before its application are equally practicable, as in the other modes. In the army, where great certainty is necessary, and few attendants are available, the tourniquet cannot be dispensed with. Pressure on the artery at the groin, and on the subclavian, as it passes over the first rib by the fingers, it appears is not to be relied on; as death nearly occurred in one instance of an operation for the removal of the humerus, where the artery was pressed by the fingers, as it passed over the first rib; the vessel very fortunately, however, was suppressed by grasping it with the fingers, before death took place. This disposition to simplify instruments is certainly laudable, but where it places in jeopardy the life of the patient, it is not to be admitted. The surgeon himself might properly be considered a subject of legal retribution, if to save a few dollars in the price of instruments, or a little trouble in the use of them, he endangered the lives of those committed to his

care, by deviating from the common modes so long proved, and so highly estimated.

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The cases of spina bifida, by Dr. Ives, of New York, are interesting, and highly worthy of perusal. In the first, the tumour seated on the loins, was at first an inch and an half in circumference, disappearing sometimes spontaneously, so as to expose the edges of the aperture in the spine; pressure on the tumour in this early stage, produced no effect upon the brain. The discharge of the fæces and urine were involuntary from birth; the patient was active and playful, and her health uniformly good. The tumour was first tapped with a common couching needle, which discharged but little water; a lancet was substituted after the first wound had healed, by the use of adhesive plaster, and a compressing bandage over the tumour: three ounces of fluid were discharged at the second opening.

"The opening was closed by adhesive strips, and covered with compress and bandage. The moment pressure was made upon the sac, and the fluid pressed into the spinal canal, the depression at the fontenelle was raised, her breathing, which had been stertorous, became natural; she was resuscitated, and became, almost instantaneously, active and playful. The quantity of water discharged at this time, could not be accurately determined, but it was thought to have been at least ten ounces. It is proper here to remark, that from early infancy the patient had been accustomed to the use of laudanum, and for some weeks previous to the time, when I first saw her, had taken twenty-five drops at a dose. Twenty-five drops had been given at twelve o'clock this day, and she was directed to take twenty drops at nine o'clock the same evening. During the afternoon and night, she was apparently as well as before the last evacuation."

On the next day the tumour had rapidly distended, and it was necessary to open the bandages. In the following night she screamed often, was restless, and started in her sleep. Fever followed on the next day; the opening had not healed, and two ounces more of fluid were drawn off: on the next, symptoms of acute hydrocephalus appeared, and continued during three days after; the pupils dilated, with vomiting and diarrhœa, with cold extremities.

On the fourth day from the operation, though the eyes were more natural, the constitutional disturbance had abated by the use of chalk, given internally, with lead water to the tumour, which was inflamed, and had increased to twelve

and a half inches across the circumference. The tumour opened again, and the same symptoms of subsidence of the fontenelle, coma, &c. occurred again; by the use of the above means, rest, and laudanum to quiet pain, the patient gradually acquired health and strength, and it was believed from the rapid increase of the tumour before the operation, and its slow progress for three months afterwards, gaining only half an inch, that the operation was of essential service. The water, to the amount of five ounces, accordingly, was now drawn off with a trocar, of about the diameter of a small knitting needle, on the twentieth of October, which produced intermissions of the pulse, and in three hours the sac was as tense as before. In three days, on the 23d, eight ounces of fluid were drawn off; tremors, feeble pulse, paleness, and great debility were the results: she soon, however, regained her strength and activity. In about five months afterwards, the tumour was again opened to prevent it from bursting, as it had grown larger, pressure being made at the same time, to prevent uneasiness. The water during the next ten days, was several times evacuated; but from the excoriations produced upon the surface of the sac, and the diminished prospect of lessening its size, which was now sixteen and a half inches in circumference, the attempts were abandoned. Her evacuations still continued involuntary at the date of the paper; and though the child was in her tenth year, she enjoyed good health.

In the other case, the same instrument was used; a trocar of the size of a small knitting needle, and with the same results. The patient was enfeebled after each operation, and its removal to the country prevented further trials. The author supposes that the adoption of more energetic means than ordinarily applied, may be used in this disease, though the cases were not ultimately benefited by his experiments.

The want of bone forming the passage through which the tumour protrudes, must be always a serious objection to the use of any means, whose only object is the evacuation of its contents, for it will most certainly always enlarge as before; of course, the treatment can only be palliative; all attempts heretofore made, have been generally fatal. Van Swieten states, that hydrocephalus and death are the results of opening the tumour,* and that all attempts since the time of Ruysh, excepting pressure by bandage, have generally been considered useless. The project of Benjamin Bell, of extir-

* Comment, Vol. XII. p. 269.

pating the sac by a ligature passed round its base, and producing adhesions of its lining membrane, and then using a truss, by which it may be prevented from enlarging, might be tried. This plan was put into operation in a case of a tumour on the head, detailed by Mr. Thompson, in No. 30 of this journal, p. 264; it had some resemblance to spina bifida. It was cured by applying a silk ligature round its base, and gradually tightening it, so as to produce a union of its sides.

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An epidemic erysipelatous fever has prevailed in Westchester county, (New-York). The history of it, related by Dr. Fountain, possesses some interesting features. The soil of the country is clayey and calcareous; the epidemic began in February 1825, and continued till August. It appeared with a stiffness about the fauces, on each side of the trachea for a few days preceding the attack, and was mistaken by ordinary observers for quinsy. The velum of the palate was slightly red, and relaxed; a chill and fever succeeded, with a yellowness, and then a dirty scurfy appearance on the tongue; the fauces became red, dry, and glistening; the uvula gradually became more elongated, till it laid upon the surface of the tongue. It became stiff, and assumed a hooked figure till the disease abated; sometimes its apex sloughed off; spasms of the larynx occurred in some instances; the fever went on, in the remittent form, the tongue becoming "dry, yellow, brown, or black; and a number of small abscesses opened about the larynx, pharynx, and their vicinity; and the tonsils suppurated. These abscesses discharged little at first, but in a few days the whole fauces presented the appearance of a large concave irregular fungous ulcer secreting and pouring out an enormous quantity of pus, especially in old people. In mild cases, the disease terminated here; the ulcers healed, the skin became moist, and every symptom gradually disappeared. But in malignant cases, the fauces gangrened before ulceration, beginning at the margin of the palate, and death closed the scene on the third or fourth day. In old people death was sometimes induced by the excessive discharge of pus from the abscesses. Neither of these terminations however was frequent; but more commonly about the fifth, sixth, or seventh day, the patient was observed to breathe with difficulty through the nose; and on its upper part across the ossa nasi a red patch was discovered glistening and smooth, slight at first, but a sure omen of portentous import. Like a cloud gathering gradually for a storm, it darkened and spread from every point until the whole face

was lost in redness and tumefaction; the eyes were closed, the nose appeared to sink, the mouth was distorted, and the ears stood aloof, projecting and stiff, and from them and the nostrils a thin acrid fluid was continually oozing. The disease continuing, the redness deepened, verging to a purple, and blisters from the size of a sixpence, and smaller, to that of a dollar, appeared sometimes solitary, but more frequently in clusters. These were filled with a yellow serum, and the skin, or rete mucosum beneath them, was often purple, and even black, giving the whole visage an unnatural and terrific aspect. This appearance spread from the edges, while the part first assailed rather improved in appearance, or even desquammated. It seldom descended to the trunk of the body, though in one instance I saw it spread over the breast and shoulders. Immediately on the appearance of the erysipelas on the face, the throat affection began to abate, and ceased entirely when the face became much affected. The general irritation, during this state of things, remained the same; slight morning remissions and evening exacerbations, with restlessness, and sometimes delirium, heat, thirst, foul tongue, dry skin, &c., marked its progress. After four, five, or six days, the spreading ceased, desquammation ensued, the eyes reopened, and the skin became smooth, retaining its redness, however, several days. This may be called the full course of the erysipelatous epidemic fever in a good habit when not interrupted nor diverted by interference. Convalescence was generally very rapid after such cases, when properly managed."

Sometimes the disease was suddenly translated to the stomach, intestines, and bladder, the throat being relieved. When the stomach was affected, sudden prostration of strength took place, and the patient died in three days. Strangury was the symptom when the bladder was affected. These metastases generally took place on the third or fourth day. "Two parts were often attacked simultaneously, yet they never, I believe, progressed together, for as one advanced, the other declined and disappeared. I have seen almost every part of each extremity attacked at different times. I have repeatedly seen the thigh, the leg, the arm, the fore-arm, the hand, or the finger, or toe, the rallying point, and terminate in resolution or gangrene, and sometimes in suppuration, which in large limbs formed deep and extensive abscesses. I had one patient, a girl eleven years old, in whom the vulva was the seat of the erysipelatous affection; it spread anteriorly up to her navel, and posteriorly from her shoulders to the

midway of her thighs. She blistered, desquammated, and recovered."

When these patches began to spread, the inflammation of the fauces vanished. The throat was most frequently affected in the old and choleric, and proceeded to suppuration and gangrene. In the young, the extremities were more frequently attacked. The axillary and cervical glands were also frequently affected; they inflamed, swelled, and suppurated; the discharge increasing for some days after they were opened, and always to the relief of the general symptoms.

Its causes were unknown; the mortality was greatest among the aged; for after sixty, none recovered; and the young were generally treated with success. The cure consisted in giving an emetic, which, when taken early, suspended, and often cut short the disease. During this suspension, sudorifics were thrown in, to keep up the truce already gained. Dover's powder, camphor and opium, spiritus nitri dulcis, &c., were used for this purpose, and after continuing this plan for eighteen or twenty hours, a laxative was administered, so as to operate mildly, and not interrupt the perspiration. If the diaphoresis did not abate the disease, the patient was relieved by taking the emetic and laxative alternately for three or four days, (the sweating in the mean time being continued.)

In giving the emetic, large draughts of warm water or tea were also administered, so as to induce a copious perspiration; and if the emetic operated too severely, laudanum was given to allay its effect. In five or six days the disease generally subsided; sometimes it continued till the eleventh and twelfth; carbonate of ammonia and spirits of turpentine were given to support the flagging powers of the system. The first was used to stimulate and support its powers, and at the same time to keep up a moisture on the skin: the action of the latter was more permanent, and as a stimulant in the last stage of fevers, Dr. Fountain thinks highly of it. It was useful even where gangrene had commenced: and as a tonic, was more to be relied upon than the Peruvian Bark.

The inhalation of steam relieved the spasms of the larynx, and a gargle of cayenne pepper, common salt and vinegar, were of the greatest service when the disease was farther advanced.

When it was translated to the bowels, the same plan answered: emetics were then equally necessary: ipecacuanha in the dose of 12grs. with about one grain and an half of

opium, and three grains of camphor, raised the system, whilst it produced a perspiration, and relieved the disease.

Bleeding was generally fatal: the pulse was gaseous, and easily compressible, and if the patient lost blood, no stimuli could rouse the system; the patient died without remedy. Mercury did not arrest it; the disease and salivation kept pace with each other: it also acted as a predisposing cause favouring its development where they might otherwise have escaped. "This effect occurred in three instances. They were all delicate females, and were taking mercury for chronic affections of the liver. The first occurred during the height of the epidemic. She was on the use of calomel, pulv. antim. and nit. potass. The second was on the use of the blue pill. They both had the distinctive characters of the disease, both generally and locally, for no other sore throat resembles this. The third was taking the blue pill, and had the disease severely. Her throat and gastric affection alternated several times, and she recovered after having been in a hopeless state several days. They were all persons of choleric temperaments, and the last one remarkably so. The first two had been taking mercury only a few days, and the other several weeks." Blisters also aggravated the symptoms: locally applied they favoured gangrene where there was external inflammation.

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Dr. Stearns, late President of the Medical Society of the State of New York, proposes a new theory of conception; which consists in the supposition of a vacuum created during coition, by the dilatation of the sides of the womb, which produce, by atmospheric pressure, an union of the semen and ovum in the cavity of that viscus; as it is doubtful, from the experiments of Haighton, whether the fallopian tube approaches the ovarium for some time after coition; as the laxity of the vagina, also, in many subjects, is wholly incompatible with the idea of a vacuum being formed in the uterus. And, as it is doubtful whether the uterus does really enlarge during the orgasm of coition, so as to form a vacuum, the doctrine appears to be without sufficient foundation.

Dr. Drake gives an interesting case of exostosis projecting from the ischium impeding delivery: the woman died; the uterus was lacerated, probably the effect of a large dose of spurred rye. The tumour was found to consist of a mass of thin laminæ of bone, cartilage and grumous matter. For further particulars, see the number, p. 370.

Dr. William F. Seaman, of New-York, gives a case of injury of the knee-joint, in which the outer condyle of the os femoris had been broken off, and had not united.

"It left no other inconvenience than a difficulty in flexing and extending the leg in going up and down stairs, or similar occasions requiring extensive motion. His walking on a level was free from pain and natural, and the joint in no respect deformed.

"It also adds one more case to those recorded by Astley Cooper, tending to prove that fractures of the extremities of bones within the capsular ligaments of the joints, do not unite by bony union, nor in this case, as in that in the cavity of the hip joint, does any decided union take place. It also contributes in a measure to controvert the theory of this celebrated surgeon, that the cause of non-union in these cases is attributable to 'the want of proper apposition, or to the absence of continued pressure,' as in this case the bones suffered no displacement, and the natural pressure was constantly maintained by the contraction of the surrounding muscles. It seems much more probable, that the want of union in these cases is owing rather to the constant immersion of the fractured extremities in the synovial fluid of the joint, than to any other causes hitherto assigned for it. The fact of the increased quantity of this fluid secreted into the joint immediately after an injury of this kind, so great in some cases as to prevent the perfect coaptation of the fractured extremities, as well as the circumstance that bones fractured in the shaft do not unite in the cavity of an abscess that continually bathes them in pus, strengthens the conclusion that this is the principal impediment to ossiffic, and indeed to every other union. Whether in these cases the evacuation of the synovia of the joint would not favour a union, must be left to future observation to determine; if so, our hypothesis becomes established as a matter of fact, and it would remain to consider how far its evacuation under certain circumstances might advantageously become an object of the chirurgic art."

Dr. Gloninger relates a case of epistaxis supravening on a tertian fever, which was cured by a seton and nauseating doses of sulphate of copper.

The number concludes with reviews.

In the enumeration of books, there is a small treatise on "the nature of Hernia, with some remarks on trusses," &c. by G. A. Hull, M. D. late president of the Medical Society of the county of Oneida. The improvement in these instru-

ments made by Dr. Hull, cannot be understood without the plate. Its value will be appreciated from the following extract:

"It is a fact well known to the profession in the county of Oneida, and has been a subject of congratulation in their medical society, where the truss was invented and first brought into use, that from the year 1800 to 1819, from three to five persons were annually the subjects of operations from strangulated hernia: and that from the year 1819 to 1822, not a single case had occurred within the knowledge of any individual member of the society. This surprising alteration was attributed, solely, to the general use of the instrument now under consideration."

# ANALECTA.

1. [The following valuable general results of the experience of the great Dr. Baillie of London, communicated to his more intimate medical friends, and not intended by him to be generally circulated, we have just received, and are happy to lay before the profession. They will be found to contain maxims which are invaluable, particularly as they were deduced from a vast surface of experience, and amidst the greatest advantages which the present improved state of medicine affords.]

*Some brief Observations drawn from my own Experience upon a considerable number of Diseases.*

I have now practised as a physician for more than thirty years, and have, for the greater part of that time, been so much occupied with visiting patients, that I have seldom been able to write notes of individual cases. It has occurred to me, however, that some advantage might be derived from my leaving a short record of the results of my experience in a considerable number of diseases.

I am convinced that the most successful treatment of patients will depend upon the exertion of sagacity or good common sense, guided by a competent professional knowledge; and not by following strictly the rules of practice laid down in books, even by men of the greatest talent and experience. It is very seldom that diseases are found pure and unmixed, as they are commonly described by authors; and there is almost an endless variety of constitutions. The treatment must be adapted to this mixture and variety, in order to be as successful as circumstances will permit; and this allows of a very wide field for the exercise of good common sense on the part of the physician. A physician who should be guided strictly by the rules laid down in books, would be a very bad practitioner. In the following short observations on the treatment of various diseases, I shall state impartially the result of my experience, without entering into any speculative reasoning, which is often very fallacious.—*Hanger Hill; July* 22, 1819.

*Complaints of the head.*

Many persons of both sexes are affected daily with headaches, of more or less severity, for many months, and often for some years. They chiefly prevail towards the middle time of life, but occur often at an earlier period. They may take place in any part of the head, but are more commonly felt in the forehead, or over one eye, or in the back part of the head. Such headaches I have found in general to be very little benefited by bleeding, either general or topical. In the accounts which patients have given me of the effect of this remedy, they have said that they have either received from it no benefit at all, or that it has lasted but a few hours; or that the headaches have even been worse after cupping, or the application of leeches. I have generally found such headaches to be most benefited by temperate

living great attention to avoid improper diet, purgative medicines, and bitters. The best common medicine is rhubarb and soap, in such doses to give two motions daily. A few grains of calomel, with an aperient draught, such as an infusion of senna with a drachm or two of Epsom salts given occasionally—as, for instance, once in a fortnight or three weeks—are sometimes of much use. A due degree of exercise taken daily, both on foot and on horseback, is likewise in some cases very serviceable. Some headaches I have known relieved by nervous medicines, but not frequently. In some cases this complaint is relieved by no plan of medicine or management whatever, but will gradually, after some months or years, subside. The seat of such headaches is, I believe in the scalp, and not in the inside of the cranium. They depend chiefly for their cause upon the state of the stomach and bowels, or upon an irritable state of some of the nerves of the scalp. In most headaches of severity, it is right to make one or two trials of the effect of topical bleeding; but not to persevere in the repetition of this measure for many months, as is often done, even though it produce no benefit.

The cutting the hair of the scalp very short, and the application of cold, by a large sponge wrung out of cold water and applied to the upper part of the head, will often give great temporary relief when the skin has been previously hot

*Apoplexy*.—This disease, in its most severe form, depends commonly upon blood being poured out into the substance of the brain from some ruptured blood-vessel. This generally takes place in the medullary substance, near one of the lateral ventricles, but it may occur in any part of the brain. The milder forms of apoplexy depend upon a distention of some of the vessels of the brain, from an undue accumulation of blood in them. I have known, however, one instance of fatal apoplexy where many of the blood-vessels were found, upon examination after death, to be much distended with blood, but no blood had been extravasated in any part of the brain.

The chief remedy in apoplexy is large bleeding, to be repeated according to circumstances. Topical bleeding by cupping and leeches is likewise often of use. The next remedies in importance, are purgative medicines of considerable power, and acrid glysters. The head should be kept high or elevated, and cold may be applied with advantage to the top of the head. If the patient should recover by these means, the best plan of management, in order to escape from another attack, is to live almost entirely throughout future life upon vegetable food, and to abstain from wine, spirits, and malt liquor. It will be of considerable advantage to avoid any strong or long-continued exertion of the mind. In a few instances, when the full state of the vessels of the brain had for some time subsided, I have derived considerable advantage from the moderate use of tonic medicines, and more especially of steel.

*Hydrocephalus*.—I have known in my own experience but one instance of this disease being cured, when fully formed. In this case all the symptoms were well marked, and the disease had made such progress that squinting and an irregular pulse had taken place. There had been no peculiar treatment, except that mercurial ointment was applied daily to a considerable sore on the upper part of the head, which had been produced there by a blister. The individual is now alive, and is a young lady of good talents, which she has highly cultivated.

I have seen a few cases in which there appeared to be a strong threatening of hydrocephalus, that got well by the application of leeches and blisters to the head, and brisk mercurial purges; but I cannot determine whether these cases, if less actively treated, would have terminated in true hydrocephalus or not.

*Epilepsy*.—This disease appears to me to have become much more frequent within the last twenty years than formerly. If this remark be generally true, it may perhaps be accounted for by the progress of luxury, which must

render the nervous system more irritable. I have known very few instances of epilepsy radically cured; but a considerable number of cases in which the intervals between the attacks have been rendered much longer. The medicines which have appeared to me to have most influence in removing or retarding the attacks of epilepsy have been the argentum nitratum, viscus quercinus, and the oleum succini. Of these, the first is the most powerful; but, when it has been used for a good many months, it tinges the skin of some individuals of a dark colour. I have known two instances of this effect from it in my own experience. The bowels, too, should always be kept open, and the effect of brisk purgatives should be tried in the beginning of the disease.

It is of great use, in the treatment of epilepsy, that the patient should live very temperately, and should avoid every thing which may tend suddenly to excite or to harass the mind. Patients should eat animal food sparingly, and should abstain from wine, ale, and porter altogether. The hair should be cut short, and cold applications should be applied to the head whenever the skin of it feels hot. This management is often of much use in rendering the attacks both less frequent and less violent. The causes producing epilepsy are various; but I believe that in this disease, there is constantly a tendency to a greater accumulation of blood than is natural in the vessels of the brain.

*The Tic Douloureux.*—The tic douloureux seems to me likewise to have become more common of late years, and I think it is more frequent among men than women. I do not recollect to have seen any instance in which it has been permanently cured, either by internal medicines or by an operation. I have known some instances of its being cured for a time (that is, for several months, or even a year,) by medicines; and those which have appeared to me of most use are Peruvian bark and arsenic. The operation of dividing the nerve has in some instances prevented a return of the disease for one or two years, but has not, as far as I know, prevented it permanently. The courage and patience under suffering in this complaint, displayed by some individuals, have been truly astonishing.

### *Of some Diseases of the Neck.*

The most common disease in the neck is the swelling of one or more lymphatic glands. This is most apt to take place in young persons who have fair complexions and delicate constitutions. It is always a very tedious disease, and is seldom much benefited by medicine. The remedies which I have found of most use have been sarsaparilla combined with soda, Peruvian bark combined with soda, and some form of steel. These medicines will, however, often have but a very imperfect influence upon the complaint. Sea air and tepid sea-water bathing are often beneficial; but I think that the air and waters of Malvern are more useful than any other remedy. I have known a good many cases which had been but little improved by the common remedies, and by a residence upon the sea-coast, with all its advantages, which have afterwards got quite well by the patients residing three or four months at Malvern.

*Bronchocele.*—This disease is not very uncommon in this country: it is more frequent among women than men, and much more so among young than old persons. It is not often much benefited by medicine, but will frequently disappear of itself. Sometimes the swelling grows, even in this country, to an enormus size; and I have known one or two cases in which the patient was destroyed by the swelling compressing the trachea and the œsophagus. The medicines which I have found of most use have been burnt sponge, soda, and mercury, used externally, either as an ointment or in the form of plaster.

*Chronic Inflammation of the Larynx and treachea.*—This disease occurs

frequently in this country, and, upon the whole, I think is more common among men than women. It is often confined to the inner membrane of the larynx and the upper part of the trachea; but frequently it spreads downwards, even to the inner membrane of the bronchia. This disease always continues several months and often with short intervals of amendment, for years. Not unfrequently it lays the foundation of future phthisis. Remedies generally produce only a very gradual influence upon the disease, and sometimes none at all. Benefit is not unfrequently derived in some degree from the repeated application, at short intervals, of leeches to the fore part of the neck, or the skin covering the upper bone of the sternum. The frequent application of small blisters to the same parts will occasionally be of use; but perhaps the most useful remedy is a small seton inserted under the skin of the side of the neck, very near the larynx Internal medicines often produce very little good effect; but the medicine which I have found, upon the whole, to be the most beneficial, has been the extractum conii. I have sometimes directed five grains of it to be taken three times a-day for many weeks together, with manifest advantage.

*Of the Quinsy.*—I have but one observation to make with regard to this disease, which is of some little importance. It is usual to endeavour, throughout the course of it, to prevent suppuration from taking place, by the repeated application of leeches under the angles of the lower jaw. It is certainly very desirable that suppuration should be prevented, and that inflammation of the tonsils should gradually subside by resolution. I have found however, by experience, that suppuration is by such means very often not prevented, but only that inflammation proceeds more slowly to this issue. Hence the patient suffers for a considerably longer time; and the suffering in this disease is often very great. If, therefore, one or two applications of leeches do not lessen materially the inflammation of the tonsils and velum pendulum palati, I should recommend the progress of the inflammation to be encouraged by the inhaling of warm vapour into the mouth, and the application of poultices to the external fauces. In this way the disease will go through its progress more quickly, and the patient will suffer much less.

### *Of some Diseases of the Chest.*

I have very little to say either with respect to pleurisy or peripneumony. The earlier, after inflammation has taken place in the pleura or in the lungs, that blood is taken away from the arm, the sooner will the disease be subdued. Blood should in these diseases be taken away largely, and, if necessary, should be repeated again and again after short intervals. All other remedies are insignificant in comparison of the abstraction of blood from the system.

When this remedy has not been applied early enough, nor in sufficient quantity, and an abscess has been formed in the lungs, which has burst, patients have, in the greater number of instances that I have seen, recovered but very slowly. Under these circumstances, the medical attendant has little to do but avoid mischief. The constitution should be moderately supported, without being too much stimulated. Moderate doses of myrrh, decoction of bark, or infusion of some bitter, are sometimes of use. Light animal diet, and even a little wine, are sometimes useful in such cases; but great care should be taken that no new inflammation be excited.

In the course of my experience throughout many years, I have known a few instances of abscess being formed in the lungs, without any previous pain in the chest, or difficulty of breathing, or observable fever. Such patients, upon some exertion of the body, or even without any exertion, have suddenly coughed up a considerable quantity (perhaps half a pint or more) of pus; and this has been to the patient the first intimation of disease. In such cases the inflammation of the lungs must have proceeded so slowly as

to have produced little or no pain in the chest, and not to have alarmed the constitution so as to excite fever.

*Of Phthisis Pulmonalis.*—In the course of my medical experience, I have known one or two cases of patients who recovered from phthisis which was apparently fully formed. It is probable, however, that with regard to these cases I may have been mistaken; and that, if I had inquired with sufficient accuracy into their history, I should have found that they were small abscesses of the lungs, of a common, and not of a strumous nature

I have known a good many instances in which persons threatened with consumption have recovered by going into mild climates, or even into Devonshire or Cornwall; but I do not recollect a single intsance in which they recovered when the disease had decidedly been formed. Change of air should be adopted very early, in order to give it the best chance of success. Such a variety of accounts have been given by patients and even by medical gentlemen, of the comparative advantage of one place over another abroad, that I have found it impossible to decide which is to be preferred. I am disposed, however, to think that Madeira, the Hyeres, some parts of Portugal, Malaga, Nice, and Naples, are the best It is very possible that different places may suit better with the constitutions of different individuals; and this conjecture, if well founded, may explain the cause of there being such a variety of opinions upon this subject. A patient should, if possible, spend two or three successive winters abroad, in order to give the best chance of the disposition to the disease being subdued.

When no active inflammation is going on in the chest in phthisis, I have sometimes found advantage from patients being allowed to take a little white fish or light animal food at dinner. In a very few instances I have found benefit derived from their taking one, or even two, glasses of wine, diluted with water, after dinner; but wine is generally improper.

I have known of no medicine which has been of permanent and substantial use in phthsis: but I have sometimes found a good deal of temporary advantage derived from myrrh, from ammonia, and from light bitters united to the acetic acid. The frequent repetition of blisters, or a seton inserted under the skin in some part of the chest, are occasionally of considerable use.

*Of Hydrothorax*—When dropsy of the chest does not depend upon any diseased structure of the heart or lungs, I have found it much more readily affected by medicine than ascites or dropsy of the ovarium. Not unfrequently, under these circumstances, I have known water of the chest relieved, or for a time cured, by medicine.

The medicine which I have found most beneficial, has been mercury combined with squills and digitalis. Five grains of the pilula hydrargyri, combined with one grain of the dried powder of squills, and half a grain of the dried powder of digitalis, given twice or thrice a-day, have, in many cases under my care, either very much mitigated or for a time removed the disease. There has been some advantage from the mercury affecting slightly the salivary glands. Squills and digitalis are by themselves much less efficacious than when combined with mercury.

I do not recollect one instance of hydrothorax being permanently cured, although I remember a good many cases in which the symptoms were repeatedly removed by the same means in the same patient.

Where the difficulty of breathing has been very great, and the legs and thighs have been much swelled from anasarca, I have known much relief afforded by a scarificator and small cupping-glass being applied above the inner and outer ankle of each leg; and I do not remember any mortification attacking these small sores. The difficulty of breathing in such cases probably depended in part upon the water accumulated in the cellular membrane of some parts within the chest, and this was gradually emptied through the small openings made in the skin of the legs.

### *Of Palpitation of the Heart.*

Palpitation of the heart may take place at any period of life; but it is more common at an early period than any other,—as, for instance, from fifteen to twenty-five years of age. Perhaps, too, it may be more common in females than in males; but of this I am not very certain. At an early period of life, it does not in general depend upon any diseased structure of the heart, but either on a morbid irritability of the nerves of this organ, or upon some imperfect state of digestion. When it takes place from either of these causes, it always continues for a long time, (often, more or less, for two or three years,) but at length generally subsides. Rest of body and quietness of mind are two of the chief means which contribute to remove this disease. All quick motion of the body, and more especially walking up ascents, increases the complaint, and should as much as possible be avoided. Every thing which tends to excite or harass the mind has the same effect, and should be shunned whenever it is possible. To rest of body and mind should be joined very temperate diet; and, when this general plan of management has been continued for many months, or perhaps for a year or two, the disease usually subsides. Digitalis has sometimes been useful in mitigating this complaint, but frequently it produces no good effect.

Where the palpitation depends, either altogether or chiefly, upon the state of the stomach, it is gradually removed by temperance, by improving the condition of the stomach, and by keeping the bowels free from costiveness. I remember one case in which palpitation of the heart had taken place, and had continued for six months, in consequence of gout having attacked this organ. In this case the palpitation ceased suddenly and entirely when the gout attacked one of the feet in a full and decided form. This person is now alive, and has continued generally in good health, although it be nearly twenty years since the attack of palpitation.

In young persons, palpitation depends upon an enlargement of the several cavities of the heart, produced not unfrequently by rheumatism attacking this organ. This cause of enlargement of the heart was overlooked by the physicians of this country, till it was discovered by the sagacity of my esteemed friend, the late Dr. David Pitcairn. The enlargement, in general, goes on increasing till life is destroyed; but I have known two cases where the enlargement stopped at a certain point, the increased action of the heart in a great measure subsided, and the patients acquired a tolerable share of health. They are both now alive, and they have the prospect of living, with care, to the ordinary term of life. Such a fortunate issue is very rare; but the disease may be generally retarded in its progress by much rest of body, quietness of mind, and a very temperate mode of living. Wine and every other fermented liquor should be avoided; and the patients, under such circumstances, should live almost entirely upon vegetable food.

At the middle and more advanced periods of life, palpitation of the heart often depends upon a diseased structure of some of its valves. This condition of the heart does not admit of any remedy, but must gradually become worse, until life be extinguished But the symptoms may be mitigated, and the progress of the disease retarded, by little exertion of the body, by great temperance, and by a few ounces of blood being occasionally taken from the arm.

*Angina Pectoris.*—This distressing disease almost constantly depends upon an ossification of the coronary arteries of the heart, and admits of no effectual relief from medicine. I have met with two cases, however, in the course of my medical experience, in which symptoms exactly resembling those of angina pectoris depended upon an imperfect digestion; and the patients ultimately recovered entirely, by correcting the disordered condition of the stomach.

### *Of Diseases in the Cavity of the Abdomen.*

*Ascites.*—With respect to this disease I have very little to say. When it depends upon a morbid state of any of the abdominal viscera,—as, for instance, the liver or the spleen,—it is never permanently removed, and very seldom even relieved, till the morbid condition of these viscera is cured, if this event should fortunately take place. Even where the viscera in the abdomen are sound, or at least cannot be discovered by an accurate examination to be otherwise, ascites is rarely, according to my experience, cured by medicine. The ordinary diuretic medicines, as squills and digitalis, have commonly very little effect upon it. The medicines which I think, upon the whole, to have most influence upon this species of dropsy, are supertartrate of potash and small doses of elaterium In two, or perhaps three cases, during my medical experience, ascites has gradually got well without medicine, after the common remedies had been sufficiently tried and had failed. I can entertain no doubt, from some late publications that taking away blood from the arm will often be a valuable remedy in ascites, where there has been too much arterial action, or even some degree of inflammation, in the early part of the disease: but of this remedy I have not had sufficient personal experience to enable me to appreciate its value.

*Inflammation of the peritoneum.* Where this disease has not been connected with any peculiarity of season, or any epidemical complaint, I have found it to be cured by bleeding and purging, like other inflammations. Upon the whole, however, I think that it has been more relieved by repeated applications of leeches, than by general bleeding. I do not wish it to be understood that general bleeding is of no advantage in peritonitis, for sometimes it produces the greatest benefit. I think, however, that, in most cases, more benefit will be derived from the repeated application of leeches, according to circumstances, than from a repetition of the general bleeding. The purgative medicines which have appeared to me to be of most value, are calomel and the neutral salts.

*Of some Affections of the Stomach.*—There is no complaint more common in this country than an imperfect condition of the functions of the stomach. This generally shows itself by more or less of flatulence, by acidity, by a bitter taste occasionally felt in the mouth, and often by some degree of costiveness. This condition of the stomach generally arises from something wrong in the quantity or quality of the food—from anxiety of mind—and from a due degree of exercise not being regularly taken. It makes its progress very gradually, continues always for some months, and often even, more or less, for years.

The first object of attention should be to remove, as far as possible, the causes which produce it Every kind of food should be avoided which the patients may have found, from their own experience, to have disagreed with their stomach. Most commonly, animal food that is very fat, or much salted or fried, is difficult of digestion, and should either be eaten very sparingly, or, should be altogether avoided. Young and white animal food is in general more difficult of digestion than what is brown and of middle age The vegetables which are eaten should be very well boiled, and should be taken sparingly by such persons as are subject to flatulence or acidity The waxy potato is almost constantly very difficult of digestion, and in general should be avoided altogether. There should never be so much food taken at a time as to give the feeling of fulness or distention in the stomach; and, except under very particular circumstances, there is no advantage in eating oftener than three or four times in twenty-four hours. The best common beverage in disordered conditions of the stomach is water, or toast and water; and three or four glasses of wine may be taken at or after dinner, according to the habits of the patient, or other circumstances. That wine

is to be preferred which agrees best with the stomach, of which he is himself the most competent judge. Daily exercise is almost constantly necessary in order to preserve good digestion. Riding on horseback is upon the whole the best, for it gives a motion to the abdominal viscera which no other exercise is capable of; but walking is also very useful. A combination of the two is preferable to either; for riding on horseback chiefly exercises the abdominal viscera, and walking chiefly exercises the limbs and the thoracic viscera. Anxiety of mind should be avoided, whenever it can fairly be done; but it is often impossible to take advantage of this remedy.

With respect to medicines, there are none for this complaint which can be called specific. The most beneficial, however, which I have known are rhubarb, and some form of bitter medicine combined with alkalies. Eight grains of rhubarb formed into pills with soap, taken every night at bed-time, and some bitter, as infusion of cascarilla, calumba, quassia, or gentian, with some grains of soda or potassa dissolved in it, taken in the morning and before dinner, will often be very useful in this kind of disordered stomach. These remedies should be continued for five or six weeks at a time, should be omitted for two or three weeks, and occasionally resumed. If the alvine evacuations should be considerably lighter in their colour, or much darker than natural, mercury, given in moderate doses, and not for so long a time as to injure the constitution, will often be of great use. The large and indiscriminate employment of mercury in complaints of the stomach has, I think, been often very hurtful. Where acidity has been particularly prevalent in the stomach, I have sometimes found it more effectually corrected by the diluted mineral acids than by alkalies. Ten or twelve drops of the diluted sulphuric or diluted nitric acid, mixed with an infusion of some bitter, and taken twice a-day, will sometimes be very beneficial in this condition of the stomach.

There is an affection of the stomach in which the digestion is very imperfect, and in which considerable quantities of a transparent viscid mucus is formed. This often produces nausea, and is occasionally brought up by vomiting. According to my experience, this condition of the stomach has been frequently little benefited by medicine; but sometimes I have found the tinctura benzöes composita of considerable use. A drachm of it may be taken, mixed with water and some mucilage of gum acacia, three times a-day.

There is another affection of the stomach, less common than the former, but far more serious,—viz. where the stomach throws up in large quantity a fluid like cocoa. A quart of this fluid will often be thrown up at a time; and this will frequently be repeated for many days together. This condition of the stomach is sometimes connected with a diseased state of the liver, but sometimes it is independent of it, there being, at least apparently, no disease in this latter organ. In several instances it has proved fatal; but in others, and especially in two cases which I recollect, the complaint subsided for several months at a time, and the persons enjoyed in the intervals tolerable health. This state continued many years, and the patients are still alive. In one case I had an opportunity of examining the condition of the stomach after death. It was very capacious, and was half-filled with this brown fluid, but did not appear to be at all diseased in its structure. The neighbouring viscera, as the liver and spleen, were (as far as I recollect) perfectly sound. The fluid would appear to be formed by a diseased secretion of the inner membrane of the stomach, without any apparent morbid structure.

This disease, according to my experience, is but very little influenced by medicine or by diet. In two or three cases, some benefit seemed to be derived from astringent medicines combined with moderate doses of opium,—as, for instance, from tincture of kino, or tincture of catechu, with a few

drops of laudanum, taken three or four times a-day. The bowels should be at the same time kept free from costiveness.

In some cases the stomach will lose almost entirely the power of digestion; the patients will become pale and emaciated, and appear as if they were affected by some fatal visceral disease: at the same time no morbid structure in the region of the stomach or liver can be detected, by the most attentive examination. In some of these cases, the patients have been completely restored to health by a course of the Bath waters.

*Of Inflammation of the Bowels.*

Of this very formidable disease I have very little to observe. Where the symptoms had been fully formed, the greater number of cases which I have seen have terminated fatally. One case, however, in which the vomiting was of stercoraceous matter, recovered. The chief remedy in this very dangerous disease is bleeding largely, both from the system and topically by leeches. It is very desirable that the inflammation should be subdued, or at least be much lessened, before any active purgative be administered. A purgative during the violence of the inflammation will rarely produce any evacuation, and may even do some injury, by stimulating a part still highly inflamed. Fomentations have been very commonly applied to the belly, and they give some temporary relief. I am inclined to think that cold applications may be useful in assisting to subdue the inflammation; but this I have not hitherto tried. The tobacco glyster, and cold water thrown upon the lower limbs, have in some cases excited the bowels to action, when ery powerful purgatives had failed

*Of Dysentery.*—In this disease opiate and astringent medicines have sometimes appeared to me to be administered too early. Mild purgative medicines (of which I think castor-oil, upon the whole, the best,) should be administered till the alvine evacuatious have become free from mucus and blood, and have recovered in a considerable degree the appearance of a natural fluid motion. Astringent medicines with opium, may then be directed with much advantage. As there is always an inflammatory condition of the bowels in this disease, leeches may be applied to the seat of the sigmoid flexure of the colon, and the upper extremity of the rectum, with a considerable chance of benefit.

[*To be Continued.*]

2. *Cure of Herpes-Exedens, of six years' standing, by a six weeks' administration of Graphite. By Dr. Mayer, of Petershagen.*—A woman, 39 years of age, who had enjoyed excellent health till her 28th year, was then attacked with rheumatic pains, particularly of the feet; and, after a continuance of four years, the pains disappeared, but were soon succeeded by a red spot over the os maviculare of the right wrist; in a short time this formed a vesicular swelling, which was very painful, and lasted without alteration some weeks. The sufferer finally became impatient, and pierced the swelling with a needle, which evacuated some bloody matter, and the part gradually ulcerated. Other vesicles attacked the surrounding parts, and formed ulcerations similar to the first, all of which grew worse, after the application of a pitch and tallow plaster. She applied to a military surgeon for relief, and was by him directed to make use of a reddish ointment, which increased the disease, and caused it to spread over the hand and fore-arm. She then had recourse to a forester, celebrated for wonderful cures; but in this case he failed, and she received no relief from several physicians who attended her afterwards.

On the 19th December, 1822, Dr. Mayer saw her for the first time, and found her complaining of great pain and itching of the hand and fore-arm, over which there were many bad smelling, ugly sores, and bluish cicatrices. New vesicles continued to appear and ulcerate as fast as the older ones

healed, and it was impossible to assign any probable cause of the disease, as the patient enjoyed excellent health, and had given birth to several well constituted and healthy children since she laboured under it. The medical gentlemen who had attended her, having made use of all the customary and most active remedies, rendered a recourse to some other mode of practice necessary, and the following prescriptions were adopted:

℞ Decoct. sarsaparill. ℔j. e radic. ℥ij. in quo solve alumin. crud. ʒij.
To take a tablespoon-ful four times a day.

℞ * Graphit. optim. ʒss. Sulph. antim. aurat. gr. vj. Mercur. dulc. g. xij. mell. depurat. ℥ss. M.
To take a teaspoon-ful morning and evening.

℞ Aq. calcar. ust. ol. amygd. dulc. ana ℥j. M.
To use externally.

On the 23d the arm was cleaner, and the pains and itching had diminished considerably. The Graphite agreed perfectly with the stomach, but the decoction being unpleasant was discontinued, and the following prescriptions were ordered:

℞ Graphit. optum. extract. dulcamar. ana ʒj. Mercur. dulc. gr. xij.
Sulph. antim. aurat. gr. vj. Succ. liquerit. q. s. ut fiat pil. æqual No. lx.
To take five of the pills three times a day.

℞ Graphit. optim. ʒij. Flor. zinci ʒss. Axung. porc. ℥j. M.
To rub the part morning and evening.

On December 27, there were no more ulcers since the last prescriptions, the old ones were healing gradually, and the medicines were continued.

On January 31, the ulcers were entirely healed, the medicines discontinued, and a camphorated volatile liniment was ordered to be applied to soften the cicatrices. The patient continued well and was not troubled any more by the disease although she made free use of the arm in her household occupations.—*Hufeland's Pract. Heilk.*

3. *Galvanism as a remedy in Protracted Sleep, by Professor Hufeland.*—This disease appears more frequently than formerly, as several cases of it have taken place recently, and among them one, as it is stated, is now at Medebach, in Westphalia, which has continued 413 days. Professor Hufeland calls to the recollection of the profession, a case which he treated successfully by galvanism as long since as twenty years. The subject of it was a young woman twenty years of age, who had slept constantly for six weeks without taking any nourishment except a little barley water, which was forced down occasionally. All external means were applied in vain till galvanism was resorted to; this had no effect whatever until one conductor was placed upon the epigastrium and the other in the left ear: these were not in operation more than two minutes before colour returned to the face, the eyes opened, the patient raised up and said distinctly "Father." From that moment she continued to improve, and had no relapse.—*Ibid.*

* Graphite, or Plumbago, was first introduced into the Materia Medica as a remedy for obstinate diseases of the skin, by Drs. Weinhold and Heim. They recommend it internally in the form of an electuary, made of the powder of plumbago and honey, or in pills of the extract of dulcamara, mercury, and antimony, and externally combined with saponaceous plaster or lard.

4. *Remarks upon Vaccination, by Professor Hufeland.*—Professor Hufeland states that the varioloid disease has, as yet, attacked almost exclusively adult subjects, or such as had been vaccinated ten or more years previously. This fact, which he believes is well founded, arises, as he supposes, from the vaccine matter losing its effect upon the system; he, therefore, considers vaccination is a certain preventive of variola, only for a limited time, say ten or twenty years, and he accordingly proposes that it should be repeated at the expiration of every ten or twenty years.—*Ibid.*

5. *Singular Commerce.*—Mr. Brooks, an anatomical teacher in London, has, in consequence of the great scarcity and high price of subjects in London, formed a regular contract with the hospital physicians of Paris, to supply him with as many bodies as he may require for his rooms. He is to pay two guineas for each one furnished him, a price very advantageous to both parties, as bodies are worth, in Paris, five francs each, and in London, fourteen or fifteen pounds sterling. The English government feared that, under the pretext of importing subjects for anatomical studies, smuggling might be carried on extensively; but upon the representation and promise of Mr. Brooks, that all cases with subjects coming to his address, should be opened at the custom-house, the government consented to allow him to engage in his new branch of commerce duty free.

*Froriep Notiz. Natur. et Heilkunde.*

1. *The London Medical and Physical Journal, for August*, 1825. In this Journal, the paper on feigned diseases, by Copeland Hutchinson, is continued. It furnishes some curious matter, which may be interesting to the surgeons of the army and navy, and which will also be amusing as well as instructive to the general practitioner. Roguery, in its protean forms, visits alike, the palace, the hovel, the army, and the navy. Constant and violent vomiting in a patient, induced the surgeon to suspect considerable morbid action in the stomach, and the case accordingly, was particularly watched. As it was observed that the paroxysms came on at the time of the morning and evening visit of the surgeon, deception was suspected, which was detected in the following manner: Previous to the visit of the surgeon, the patient was observed to put his hand below the bed-clothes, and make violent pressure on the stomach, and thus produce vomiting: accordingly, an attendant was placed near him, who held his hands during the visit of the surgeon, who ordered a dose of castor oil, and remained by him one hour, during which, no disposition to vomit was evinced: the author of the paper observes, that during his practice he has observed facts of the same kind, which convince him that many persons have the power of exciting vomiting by external pressure on the stomach: the patient was discharged cured. The editor of the journal has often excited nausea by pressure of the thyroid cartilage against the œsophagus.

Diseases of the loins from hurts, bruises, or sprains, are also frequently counterfeited: awkward postures are assumed, and the patients can only be detected by watching them in the night, and when they are off their guard, which they are often disposed to be.

Epilepsy is also frequently counterfeited, not only in hospitals, but in private life. In epileptic patients, the iris is insensible to light; if the disease is feigned, its contractility on opening the eye discovers the deception. A case of epilepsy is related, in which snuff was blown up the nostrils with the effect of inducing a fit of a different kind—a fit of sneezing; in real epilepsy, it produces no irritation whatever. Another plan was also followed with success: A female convict feigned epilepsy, and on being convinced of the fact, some aloes and salts were dissolved in a pint of water, which were given during the fit.

The bitter and nauseous taste of the medicine made her resist taking it, with vehemence, and in the struggle, she bit the tin vessel which contained it, and broke a rotten tooth; of which she afterwards complained to the

visiter, as very cruel and unkind treatment; the above remedy, however, cured the disease.

Œdematous swelling of the extremities. This is produced by ligatures, which are generally applied from a quarter of an hour to an hour and an half previous to the visit; a visit at this time discovers them. It is sometimes produced by hanging the arm across the back of the chair, which, by its pressure on the axillary vessels, produces the swelling: they generally say that it is intended to relieve pain.

Spitting and vomiting of blood. A man, to excite the commiseration of the officers, and escape duty, was in the practice of discharging mouth-fuls of blood which he procured at the neighbouring butchers, feigning at the same time a hectic cough, and keeping constantly in bed till he was greatly emaciated. Another patient was found bellowing in one of the docks, and alleged that he had fallen from the top of the dock, and was severely bruised; a natural pulse, and the absence of bruises, rendered the case suspicious. This patient was reduced to a shadow by diet and confinement, and suffered much from blisters; he pretended to be paralytic, and was at last discharged—when he soon recovered the use of his limbs.

Sulphate of iron or copperas is often swallowed by the tailors or shoemakers employed about the ship, and sometimes produces serious mischief to the alimentary canal. A patient pretended to have a paralytic arm; the sound one was tied to his side, and while asleep his nose was tickled with a feather, when he suddenly raised his arm to remove the irritation, and was awakened and congratulated on his recovery; the disease never returned.

7. Mr. Lænnec, confirming the observations of Hermann and Wollaston has observed that during the motions of the voluntary muscles, there is heard a noise resembling a carriage rolling at a distance.

8. *Comparison between the State of Ophthalmic Surgery in France and Germany, by Dr. F. A. Ammon, Dresden.*—The complaint, that in France ophthalmic surgery, in its widest sense, has not received the attention which it deserves, has even been confessed by a celebrated French* oculist; and from time to time† works in Germany‡ have thrown light on this important circumstance, and clearly shown that in France the knowledge of the diseases of the eye remains stationary at that point which it long ago attained, whilst the Germans are cultivating this branch of medicine with greater zeal, and are striving to bring it to the highest point of perfection. A general view even of ophthalmic science in France, as it now exists, will be sufficient to confirm this statement; and a closer insight into the practice of the French oculists, gives the sad result that it contains nothing but the glory of their ancestors—that it is the same as in former times. With us, on the contrary, this science has reached a point, which may be truly called the culmination point—what was formerly prepared by Barth, Richter, and others, has been brought near to perfection by Beer, J. A. Schmidt, Himly, Von Walther, Langenbeck, and Graefe. Since the beginning of the present century, ophthalmic surgery in Germany has taken a peculiar direction—on the one hand, it has become an independent science, and on the other it has been considered more in relation to the whole organization. The connexion, however, of ophthalmic surgery with surgery in general, scarcely exists in France. Both are separated, and when a few celebrated surgeons occupy themselves with diseases of the eye, they are exceptions to the general

* Guillie, Bibliotheque opthalmologuique, T. I. Cap. I. Paris, 1820. Introduction, p. x. "La pathologie oculaire a été malheureusement trop negligé par les observateurs," &c.

† Wenzel's excellent remarks in his work Ueber den Zustand der Augenheilkunde in Frankreich nebst kritischen Bemerkungen über denselben in Deutschland. Nurnberg, 1815.

‡ Later, Casper's Charakteristik der französischen Medicin, Leipzig, 1822.

practice, and confine themselves merely to the operative part. Even in the year 1822, the charlatanerie of several oculists in Paris could scarcely be exceeded. At the corner of the streets there was no lack of advertisements from the *medecins-oculistes*, announcing their eye ointments, *pommades anti-ophthalmogiques*, and lotions, and particularly boasting of their talents. The announcement of a M. G. *de la Chanterie celebre medecin-oculiste* was to be found in all coffee and eating houses, and was even sent to all strangers at their own lodgings; and in several of the provincial towns this species of quackery was, if possible, still carried to a higher pitch.

In France there are no particular institutions whatever for the purpose of forwarding the study of the diseases of the eye. Notices of lectures on this important branch of medical science, are to be sought for in vain in the catalogue of the celebrated Faculty of Medicine at Paris; they were formerly attempted, but did not succeed.* The diseases of the eye are treated in the lectures as a part of external pathology. As far as regards the literature, there certainly are not wanting new works and compendia, in which the eye-diseases are treated apart from the rest of surgery; we will only name here Delarue† and Demours.‡ But a comparison of these works with those of Guillemeau, Maitre Jan, de St. Yves, and Guerin, clearly shows that they have not advanced beyond that point which their forefathers had obtained; whilst Demours, with a succession of tediously long cases, and a number of questions and answers, leads the reader to no conclusion, but tires his patience,—Delarue endeavours to make up for the deficiency of his materials by the most extraordinary declamation. Since the year 1819, there has existed a French journal for diseases of the eye. Guillie began it with the title of *Bibliothique Ophthalmologique*, with the assistance of Dupuytren, Alibert, Pariset, Lucas, and Nauche. This journal has undoubtedly for its object the promoting in France that study which unfortunately has been there too much neglected, but its plan appears but ill suited for the accomplishment of this purpose. This journal, instead of beginning with establishing a scientific symptomatology of the diseased eye, a thing so much wanted in France, enters directly on the treatment of diseases, with the pathology and nature of which the French appear unacquainted. Instead of commencing with a natural division of the different kinds of ophthalmia and their diversified treatment, it immediately recommends certain empirically tried remedies, or contains the history of some operation. "Inflammation of the eye, with its consequences, is a wide field for the oculist. Every one flatters himself with knowing it; the lowest man in the profession knows how to speak of rose water and sugar of lead, but it is granted only to a few to have a clear insight into this branch of ophthalmic diseases." This assertion of Wenzel's (Lib. sup. cit.) severe as it is true, is characteristic of the ignorance of the French oculists. Guille could have taken no better motto for his journal than the following passage from Bacon.—"Frustra magnum expectatur augmentum in scientiis ex superinductione et insitione novorum super vetera, sed *instauratio facienda est*, ab intimis fundamentis, nisi perpetuo libet circumvolvi in orbe cum exili et quasi contemnendo progressu." *Nov. organ.* 31. The French literature contains no compendium with answers to the demands of all. Had Delarue considered that the eye can only

* Formerly Demours gave Ophthalmic lectures. Vid. Baldinger's Journal Medic. et Phys. Gottingen. 8. V B. 18 No. p. 48; and later, similar lectures were given by Delarue.

† Cours complets des maladies des yeux. A Paris 1820. 8. edit. 2. 1824.

‡ Traité des maladies des yeux avec des planches colorées d'aprés nature. Suivi de la description de l'oeil humain, etc. Paris, 1818; 3 vol. in 8, et 1 vol. in 4, d. Planches br.

Precis theorique et practique sur les maladies des yeux. Paris, 1821, in 8vo. an abridgment of the larger work.

be examined by the eye, he would not have failed to enrich his work with a better symptomatology, and more certain rules for distinguishing between the different diseases. Demours' abridgment from his large work has the same fault which is censured with so much justice in his larger one. What Roux, Lassus, Richerand, and Boyer, contain on diseases of the eye in their works on surgery, is in part not complete, and in part taken from the work of Wenzel and others. Sabatier, in his operative medicine, has given in the first edition of that work, every thing which relates to the operative part of the eye in a very creditable manner, but in the new edition from Begin and Sanson, this part is considerably neglected.* Works on any particular diseases of the eye are of a very rare occurrence in France, and with the exception of Guillie's† work on cataract and amaurosis, no similar work of the kind has of late appeared, unless we except some inaugural dissertations from the candidates for degrees at Paris or Montpellier. The impulse given to the study of physiology in France, has brought some important and yet disputed points on the physiology of the eye under examination. Besides Magendie's investigations on the mode‡ in which substances are reflected on the retina, the nature and substance of the iris§ have been examined, together with the nourishment of the lens and the existence of the liquor Morgagni. It would lead us too far from our present purpose, were we to enter into an examination of the opinions of these different anatomists and surgeons. The subject has been treated in Germany by V. Walther in his ciliary-nervous system, and Graefe in his observations on the use of the ciliary processes, and several others, whose works are familiar to our readers. Any work, however, equal to that of Soemmering's or Zinn's, is not to be found in the French literature. And it is quite a matter of surprise, that in neither of the two countries (France or Germany) where anatomy is cultivated with such zeal, has a work on the surgical anatomy of the eye appeared.

Although there exists in Paris several excellent institutions for the education and provision of the blind, there is not one single institution solely for the reception of eye diseases, and in none of the large hospitals in the metropolis are there any proper arrangements for the treatment of these affections. The complaint which Wenzel eight years ago made respecting this shameful neglect, we must now repeat. Particular apartments with suitable arrangements respecting the admission of light, &c. for the treatment of diseases of the eye, are not to be found in any hospital. Every unfortunate patient is dispersed throughout the wards, protected only from the influence of the light and draughts by the bed-hangings, so that the disease is as frequently made worse as it is mended. The difficulties which prevent the necessary arrangements for treating diseases of the eye in these institutions are unknown to us, but it appears as if no one wished them to be otherwise Since the erection of ophthalmic institutions, the study of diseases of the eye has taken a high and fixed direction, and this epoch is one of the most important in the history of this science. No where, how-

* De la medicine opératoire, p. R. B. Sabatier. Nouvelle edition faite sous les yeux de M. Dupuytren par L. J. Sanson et L. J. Begin, a Paris, 1822, 2. tomes. 1824. T. III. and IV.

† Nouvelles recherches sur la cataracte et la goutte sereine. Par Guille, sec. edit. Paris, 1818, in 8.

‡ Memoire sur les images qui se forment au fond de l'œil, précédé d'un memoire sur l'usage de l'epiglotte. Paris, 1812.

§ Jules Cloquet, Memoire sur la pupille de l'iris Paris, 1818.

Nysten, Recherches de physiologie et de Chimie pathologiques, pour faire suite à celles de Bichat sur la vie et la mort. Paris, 1811.

Maunoir, Memoire sur l'organization de l'iris et l'operation de la pupille artificiale, in 8.

Larrey, Recueil des Memoires des Chirurgie. Paris, 1821.

ever, is this change seen in a more extraordinary manner, than in the history of ophthalmic medicine in England, which since that period has undergone a complete change, and is in every respect improved. To the neglect of this point we think must be attributed, the fact of the French being behind both the Germans and English in the knowledge of ophthalmic medicine.

We will now turn to the merits of the French in opthalmo-nosology, and in the treatmeant of ophthalmic diseases. The important points respecting the inflammation of the eye are very superficially treated in the French literature. With the exception of Le Febure's monography or treatise on this subject, we are not acquainted with any similar work of the kind. Nor has the contagious ophthalmia, which has so much occupied the attention of medical men of late years, a better fate. Although the French armies suffered most dreadfully from this complaint, although the French invalid houses were crowded with the blind, who lost their sight from this disease, yet the mode of subduing this disease was never brought under discussion by them, and only Larrey and Desgennettes gave their medical opinions on the disease. Even recently, when this complaint attracted the attention of the French government, and when it became the subject of the researches of several authors, we do not discover among the French that enthusiastic zeal which the Germans have displayed in the examination of this subject, and to which we are indebted for so many valuable investigations into the nature of the disease. The works, from Baltz in 1815 to Grafe in 1823, are known to all Germans, and do not require here any further notice. It may not be amiss perhaps to make a few historical remarks respecting the contagious ophthalmia, which do not appear to be generally known. Grafe, who has treated this subject most thoroughly,* believes that here and there traces of a similar disease are to be found in the ancients (Xenophon's Anabasis.) George Bartisch, chief oculist to the Elector Augustus of Saxony, gives in his work† on diseases of the eye, which appeared at Dresden in 1583, descriptions of two kinds of ophthalmia, which, in relation to their symptoms, very much resemble the contagious ophthalmia. Even the dedication page of the book contains a plate of a diseased eye, the appearances of which are extremely similar to the contagious ophthalmia. Bartisch certainly did not suppose that this disease propagated itself by contagion, and he, who was accustomed to examine, according to the time he lived in, with extraordinary minuteness into the causes of this disease, fled to incantation as a refuge, and which he considered as the source of this terrible complaint. The second notice that we have of a contagious ophthalmia having formerly prevailed, is from a work which Haller mentions in the following words:— "*Jacques d'Ambroise, medici et chirurgi, an ab oculis contagio. Paris*, 1605, 4. *lego citari.* Vid. *Bibliothec. Anatomic. T. I. p.* 307. We ourselves are not acquainted with the contents of this work, but we take the present opportunity of drawing the attention of medical men to it, that in the investigation into the history of so dreadful an ophthalmia, they may not lose the slightest help. Several French physicians deny the contagious power of this inflammation. Whilst Delarue does not meddle with this important point, Demours gives it as his opinion, that the contagious complaint is produced by an epidemic influence. Other physicians, among whom I will only name Guillie, are convinced of the contagious nature of this disease.

[*To be concluded in our next Number.*]

* Die epidemisch-contagiöse Augenblennorræa Ægyptens in dem europaischen Befreiung's-heere, ihre Enstehung, Erkenntniss, Vorbeugung und Heilart, während der Feldzeuges 1813, 1814, 1815. Von Dr. C. F. Gräfe, Mit. 5 Kupfertafeln, 1823. Fol. Berlin.

† Οφθαλμαδουλεία, in fol. Dresden, 1583. The oldest work in Germany on diseases of the eye, and contains much interesting matter—another edition of the same work appeared at Sultzbach in 1686.

9. *Variolous Eruption.* Monsieur Velpeau has lately read a memoir, before the Royal Academy of Medicine of Paris, tending to prove that, if, during the first two days of the variolous eruption, we cauterise the pustules by means of a probe dipped in solution of lunar caustic, the progress of the pustules will be arrested. If this be done at a later period, the duration of the pustules will be curtailed—and, at all events, the marks of their existence will be entirely prevented. He appeals to Messrs. Bretonneau, Billard Dumeril, and Serres, for evidence of the truth of these assertions.

☞ If this be confirmed by other practitioners, it will be of considerable importance in a cosmetic as well as pathologic point of view.

10. *Remarks on some Means employed to Destroy Tænia, and Expel them from the Human Body.* By Louis Frank, M. D., and Privy Counsellor of her Majesty Maria Louisa, Duchess of Parma.—Notwithstanding the number of remedies which have been recommended, and often found efficacious, in destroying and expelling the different kinds of worms which infest the human intestinal canal, every experienced physician will agree with me, that all of them are often inadequate to those effects, and particularly as regards the tænia. These circumstances have determined me to publish the present observations on the subject, which, without possessing the merit of absolute novelty, may be of some use to the practitioner.

Being at Vienna in 1814, I learned from the celebrated helminthologist, Dr. Bremser, that he had for ten years been in the habit of employing, from preference, and with invariable success, Mr. Chabert's* remedy for the expulsion of tænia, of which I afterwards gave some account in Italy, in the *Repertorio Medico-Chirurgico Torino*, 1821. I have had an opportunity of employing this treatment in two cases where the patients had been tormented many years, and in both with complete success: for, seeing them both a year afterwards, I found them both in perfect health, and free from all the inconveniences they had formerly experienced. I ought to say, however, that if I was happy enough to cure these two patients, I was much indebted to their own perseverance, and their truly heroical courage, in taking this, the most disagreeable remedy in the world, for several months.

Having, on a future occasion, to treat two patients of less resolution and courage, troubled with tænia, I determined to follow the practice of the English physicians, and to employ the oil of turpentine in large doses: and having heard of the success of Mr. Bourdier and other French physicians with the sulphuric ether, either in a mixture or given by means of clyster, I thought the addition of it to the turpentine could not be otherwise than useful. But I was not long in discovering, that an Italian stomach does not so easily bear what is supportable to that of an Englishman. I consequently determined to employ the following mixture:—half an ounce of oil of turpentine; two drams of sulphuric ether; half an ounce of gum arabic in powder, in a pound of distilled chamomile water; causing my patients to take two spoonfuls of this mixture morning and evening. Four of the mixtures, taken in succession, dispelled the symptoms caused by these importunate guests, and I had the satisfaction to see my two patients two years afterwards, in the enjoyment of perfect health. I was not equally fortunate with the fifth patient, who was almost worn out by long suffering from tænia: the smallest dose of the mixture excited nausea and vomiting, and I was compelled to think of some other mode of procuring

* The *oleum empyreumaticum Chaberti* is prepared from one part of the fetid oil of hartshorn, and three of the oil of turpentine. These are well mixed, and left at rest for four days: they are afterwards distilled in a sand-bath until three-fourths of the liquor has passed over. This is to be kept in a bottle with a glass stopper, and preserved from the rays of light.—Ed.

him relief; I therefore ordered him the following:—

R. Seminis Santonici (in pulv.), ℥ss.
Radicis Jalapæ,
Ferri Sulphatis, āā ʒj.
Ol. Cornu. Cervi, gtt. viij.
Syrupi, q. s.

To be made into twenty boluses, one to be taken morning and evening.

When the entire dose of these boluses had been repeated six times, the patient found himself free from the great inconveniences with which he had been troubled; he gradually regained his good looks, and assured me, after the lapse of a year, that he found himself quite well. In all of these instances, it is worthy of remark, that the tænia was never expelled whole, but in fragments, which were often half putrified: the same thing was very often observed by Dr. Bremser.

Dr. Leberton informs us, that Buchanan and Berton, English physicians, had some time previously employed the bark of the root of the pomegranate (punica granatum) against tænia, and with the greatest success.* The celebrated Portuguese physician Gomez relates fourteen cases in which it successfully expelled the tænia; and the same remedy has already been given by several physicians in Piedmont with similar results. This medicine has not yet been tried more than once at Parma; but the patient had been ill ten years, was much debilitated, and being unable to continue taking it more than four or five days, derived no advantage from it. I am of opinion, however, that we are not always to look for the cause of failure in the circumstances of the patient; for although the mode of prescribing and administering the medicine was the same as that of the above practitioners, the manner of preparing it might have some effect; since I agree with the learned editor of the Journal de Pharmacie,† that it is important to macerate the bark and cause it to swell in cold water before subjecting it to ebullition. It would also be worth while to examine whether or not the rind of the fruit partakes of the properties of the bark of the root, as the fruit is generally much more easy to procure.

Although I have practised medicine for forty years without ever employing any arsenical preparation, yet, considering the great difficulty of expelling the tænia, I should not be decidedly averse to the employment, as a last resource, of the arseniate of potash, or, what would be preferable, the arsenical tincture, in doses of from twenty to twenty-five drops, particularly as I understand this has been found to succeed in the hands of an English physician. But although I should not object to a trial of these means, made with all the caution required both by the remedy and the circumstances of the patient, I consider it incumbent upon me, at the same time, to warn younger physicians, who are generally too bold and too confident in their own knowledge, to abstain from this experiment, lest, instead of carrying off the tænia, they should be unfortunate enough to carry off the patient. It is true that I have known an empiric give twenty-five drops of a strong solution of arseniate of potash to cure an intermittent fever, and take the same dose himself with the effect of unloading his stomach and bowels of a mass of impurities; but, whatever such rash practitioners may say, I can never avoid suspecting that they often overlook the victims of their practice.

It is well known, and I have myself observed, that after a drastic purgative, or some kind of vermifuge medicine, and, above all, after a medium dose of oil of turpentine, a more or less considerable portion of the tænia will pass out of the anus; and, if an attempt is made to retain it by force, we can only draw away an inconsiderable portion of it, whilst, sometimes, the protruded portion will all pass up again. On this account, Dr. Cag-

* Medico-Chir Trans. of Lond. vol. xii. † Année 1824, Octobre, p. 502.

nola* proposed touching this portion with hydrocyanic acid, imagining that the strong action of so powerful an agent might be so diffused over the whole of the tænia as to kill it. This proposition, of which I expressed my approbation, and which I recommended in the same year in the *Repertorio Medico-Chirurgico di Torino*, became known in Germany, and was successfully acted upon by Dr. Garleke: the acid was applied to a portion of tænia about four inches long, which had passed out of the anus, and the tænia almost immediately attempted to retreat, and struggled much on being held, and after an hour was voided dead.† Might not an electric shock be similarly applied to kill the tænia? This has already, it is true, been tried at Vienna, unsuccessfully; but no ill effects having arisen from it, it might be repeated in further instances, since it is probable, that, when the tænia is situated near the anus, it might feel the shock more sensibly than when it is higher.

I shall conclude this short account of the methods employed to expel the tænia from the intestines, by noticing the ingenious process of a surgeon at St. Petersburgh, who, finding that the sphincter ani was strongly contracted over a portion of tænia, conceived the happy idea of passing this portion of it into a canula which he introduced into the rectum, and then, proceeding in the manner practised successfully for the extraction of the *gordius*, succeeded in extracting the tænia whole. This method, though very little known, is not less deserving the attention of the profession.

As all the remedies hitherto recommended for the expulsion of tænia are more or less violent; as there is a general persuasion of the necessity for remedies, and for a very active treatment to expel the different kinds of it; we may say, that, notwithstanding these means, our success is merely the result of chance, of the possibility of which Dr. Bremser's observations have afforded proof.—*Lond. Med. Repos. April*, 1825.

11. Dendy *on the Vaccine.*—Henry Freeman, twelve years of age, was vaccinated in the left arm by the usual mode. The vesicle was marked by the appropriate progressive character of successful inoculation. It happened that on the same day on which he was vaccinated (five hours subsequent to that process,) an incised wound was accidentally inflicted on his right knee; which wound, for two or three days, promised union by the first intention. On the fourth or fifth day, however, an increase of pain was felt in the knee, with throbbing and heat about the edges of the wound; and, on inspection, some slight papulæ, to the number of ten or thirteen, were observed surrounding it. These appearances were yet referred to a common cause. On the eighth day, their peculiar and regular form imparted a conviction that they were true vaccine vesicles, which they proved to be by their progress and maturation.—*London Med. Repos. April*, 1825.

12. *Case of Ileus with obstinate constipation, as a consequence of Intussusceptio, cured by an Operation. By Kreisphysicus, Dr. Fuchsius in Olpe.* (*Hufeland's Journal der practischen Heilkunde. February* 1825.)‡—One of the most painful and dangerous diseases is undoubtedly Ileus, when it occurs as a consequence of intus-susceptio of the intestines, for which reason every thing that throws light on this complaint must be acceptable, especially as, up to the present time, notwithstanding the progress we have

* Vide Omodei, Annali di Medicina, 1821.

† Vide Journal de Hufel-public.

‡ This case, on account of its successful termination and the judicious determination of the physician, reflects the highest credit on him, and deserves the attention of every medical man, both on account of its rarity, and the important information it affords, respecting the diagnosis of the complaint. *Hufeland.*

made in the healing art, there still exist so much uncertainty and ambiguity in the knowledge and treatment of this disease. I therefore consider it my duty to make known the following case, which is worthy of notice as far as relates to the operation which was performed on the patient, as well as its successful termination. The disease showed itself in a strong healthy man, at 28, Thomas S. from Stifflinghausen in the district of Olpe. Whilst collecting wood, whereby he was frequently obliged to stoop, and immediately after to raise himself, all at once he felt a drawing pain in the region of the navel, rather to the right and upper part; the pain rapidly increased, and compelled him to drop his work. As soon as he reached home, which he did with great difficulty, as the least jolting aggravated the pain, he laid himself down to rest. On awaking he vomited once, when some slime was thrown up; the pain was apparently lessened. Towards evening he had a stool, but it appeared to him as if the feces only came from the lower part of the rectum. During the night the pains were not so severe, but on the following day (the 10th) the patient was considerably worse; violent colic pains came on every twenty or thirty minutes, which lasted about five minutes, and were succeeded by intervals of ease. The doctor of the parish, (Dr. Weiskirch) from Attendorn, was called to the patient, and considering that he was labouring under a spasmodic inflammatory affection of the bowels, ordered castor-oil, salts, and venesection, which appeared to relieve the man. The relief was, however, of short duration, for in the evening the colic pains returned with increased violence, and appeared from every fifteen to twenty minutes; at this time also he passed a good deal of wind. The pulse was soft, neither full nor accelerated, the temperature of the skin not much increased, the abdomen neither distended nor hot to the feel; warm baths were ordered, and the former means tried, and this treatment was continued up to the 14th, without any good effect. At this period, five days from the commencement of the complaint, I was consulted. On my arrival, I found the patient in bed, and free from pain; his countenance was pale, and slightly tinged with yellow, there was an expression of anxiety and uneasiness in the look; the eyes were also slightly yellow, and the tongue covered with a dirty fur; the temperature of the body was not much increased; the urine was of a pale yellow and turbid, and the pulse was regular, about sixty, and soft. The abdomen was neither distended nor hot, but throughout its whole extent it was tender to the touch. The most sensible part was in the neighbourhood of the navel, rather on the right side superiorly, just where the ascending portion of the colon terminates, and the transverse begins; here there was an evident hardening. The exact extent of this spot, on account of its depth, could not be accurately ascertained, but it extended itself from the right towards the left side, commencing about two inches above the navel on the right side, and reaching as far as the rectus on the left. The hardened spot was unequal on its surface, and to the feel appeared like an uneven distended intestine. There was no hernia in any part. Since the 9th, the patient had not had any evacuation of consequence; he had only vomited once since the attack. I had scarcely been present half an hour, when the scene changed itself; the colic pains came on with such violence, that the poor man was obliged to run up and down the room in a most distressing manner, looking out for something by which he might support himself. During this paroxysm, which lasted from five to six minutes, I found the abdomen somewhat distended and painful, particularly in the part above mentioned, where something hard, about the size of my fist, could be distinctly felt. The induration lay in a transverse direction. According to the patient's statement, this spot was the chief seat of the pain, as the pains were always most violent in this part, and also took their origin from it. Respecting the course of the disease, the patient could assign nothing which had produced it; it

came on suddenly whilst engaged about the wood in the forest; he had neither eaten any thing out of the common way, nor had he caught cold; in short, the complaint came on all of a sudden, without any assignable cause whatever. The etiology of the case was quite obscure to me, and I could not distinctly decide on the nature of the disease. I was convinced that neither a pure inflammatory, nor a spasmodic affection was present, as many of the distinguishing marks of both were absent. The idea, however, struck me, that the complaint arose from mechanical obstruction. On account of the violent pain, I thought it necessary again to repeat the bleeding, and also directed leeches to be applied over the hardened part. The antiphlogistic plan was continued till the 20th; baths, fomentations, and clysters were all tried, without any advantage whatever. The patient's strength was considerably reduced, and his spirits very much depressed. The indurated part remained the same; when the patient moved, it was painful, and during the paroxysms it was harder and more evident to the feel. The pain always began in the part, and extended itself over the whole of the abdomen. I became convinced more and more of a mechanical impediment, and of an entanglement (Verwickelung) or running of of one part of an intestine into another (Einschiebung), as being the probable cause of the complaint. I stated to the relations my opinion of the case, viz. that without an operation, I considered recovery scarcely possible, and for the operation to have the best chance, it should be performed soon, before inflammation and mortification of the intestines should take place.

From the treatises on surgery of both old and modern times, as far as my recollection served me, nothing satisfactory or conclusive was to be drawn. The best authorities all stated, that there was no sure diagnostic mark which pointed out with certainty the presence of a volvulus or an invagination of the intestines. Among many others, I will only here quote the words of the great Richter on the subject, to be found in his *Specielle Therapie*, Band 4, p. 224. "The extraordinary difficulty of the diagnosis," namely of the volvulus, "so that one can never know with certainly where the mechanical impediment is to be sought, and the circumstance that the operation can only be undertaken after a long continuation of the disease, when all other means have failed, and internal inflammation and adhesions have probably taken place, are sufficient to prevent us from expecting a successful issue. Notwithstanding, cases occur where it is the duty of the physician to risk the operation." These last words first created in me the idea of the possibility and necessity of an operation in the case before me. Before I performed the operation, I was not aware of any case in which a similar operation had been performed with success; afterwards, however, I found that Nuck had operated successfully, (*S. Velse in Halleri Disput. Anat. Tom. VII. p.* 126,) and this is the only successful case I know, contained in the annals of medicine. On the other hand, there was no lack of unsuccessful operations for this complaint, (*S. Hægg in Sandifort Thesaurus Dissertat. Vol. III.*,) from Barbette (*Opera Chirurgica Anatom. Lib. X. Cap. II.*) and Hevin (*Memoires de l'Academie de Chirurgie, Vol. IV. p.* 201) down to Zang, (*Operationen, Bd.* 3, *a, p.* 212.)

The patient still continued in the same state, and all the means which had been tried produced no good effect whatever. I therefore determined to change the remedies and try some others. Internally I ordered every half hour from two to three table-spoonsful of lukewarm red oil, and every hour a grain of opium, and this was continued for six hours in succession. From the use of oil in conjunction with large doses of opium, I have sometimes seen very good effects in obstinate costiveness, particularly in strangulated hernia, combined with a spasmodic affection of the intestines. At the same time, I ordered the abdomen to be rubbed with warm oil. The effect of this treatment was a longer absence of the violent pain,

a natural consequence of the lessening of the peristaltic action of the intestines through the operation of the opium. Together with these means I tried several clysters with cold water, which were thrown up the rectum in a strong and long continued stream. These, on the removal of the pipe, were always immediately returned, and, according to the patient's feel, they reached as far up as the hardened part, but no farther. From these clysters, which MOLINARI in Italy first tried, and de HAEN strongly recommended, and which ABERCROMBY, SMITH, (*vid. Edinb. Surg. and Med. Journal*, 1823, *January*,) MAXWELL, (London Med. Repos. 1824, Jan.) and Dr. Robert Chisholm state to have been used with benefit, were tried in this case without the least advantage. I regret that I did not try the inflation of the intestines in this patient. Hippocrates, speaking of the different remedies in this complaint, says, (Hippocrates's works translated from the Greek by GRIMM, 4 Bd. p. 168.) "Jubet hoc in effectu, alvi apertionem tentandem per glandem satis longam, ex melle paratam, quæ anteriore parte felle taurino oblinatur, et bis ac ter submittatur, quo combusta, ut inquit (Lib. III. de Morb. § 15.) stercora circa rectum intestinum contenta educantur. Post hæc clysterum adhibendum docet. Et ulterius addit sin minus hæc opem ferant folle febrili *in Ventrem indito flatus immitatur*, a quo et ventrem et intestini contractionem distendere oportet, et extracto folle, clysterem applicandum." Vid. FRED. HOFFMANN medicinæ rationalis systematic, (par IV. p. 294.) Also HALLER in his *Physiologia corporis humani*, Tom. VII. p. 95. says, "Flatus etiam immissus celerime susceptionem depellet." Compare also ALB. HALLERI opuscula pathologica, Observatio XXVII, intestinorum intro susceptio innoxia. Lausannæ, 1775.

No abatement of the disease took place, but the patient had become sensibly worse. On the 18th, I found the patient extremely weak, vomiting had supervened, not however of fœcal matter, although it had the smell; the abdomen was greatly distended, but the indurated part was just in the same state and position. I enforced on the patient the necessity of submitting to the operation as the only chance of his life. I also called in two other medical men, one of whom suggested the use of pure mercury. With this exception, they agreed that every remedy had been tried. Mercury was therefore given in the dose of six ounces at a time; vomiting immediately followed the exhibition of the medicine, but none of it was thrown up. It proved, however, just as unsuccessful as all the other remedies which had been tried. The operation was, therefore, resolved on, and on the 19th, at 11, *a. m.* I proceeded to perform it in the presence of Dr. Weiskirch.

*Operation.*—After the patient was placed on a convenient table, we examined accurately the situation of the hardening, and determined on opening the abdomen at the outer edge of the right rectus muscle, about two inches above the navel. After dividing the integument with a common scalpel, and making a small opening in the peritoneum, I introduced my finger, and, with a blunt-pointed scalpel, divided the peritoneum on it so as to make it correspond with the external opening which was between two and three inches. I then besmeared my hand with oil, and carried it into the abdomen, in order to feel for the indurated part. Scarcely had I introduced my hand, than an attack of the pain came on, and a portion of the intestines was protruded through the wound, which was immediately replaced by my assistant. On continuing the examination, I discovered, in a transverse portion of the ileum, a foreign substance just where the hardened intestine was to be felt. I drew the intestine out, in order to examine it more minutely. The intestine was neither inflamed nor expanded, but it contained in its cavity a soft, coherent, and compact mass, which, at its upper part, was somewhat compressed, and thus felt harder than the rest. So far as I could follow this part of the intestine, this contained matter was to be felt. I also here immediately detected an intus-

susceptio; but in spite of all my efforts, I could not reach the commencement of it so as to bring it out. Two modes of proceeding were open to me, in order to remove the intus-susceptio, either to make a transverse incision in the integuments, from the right to the left side, or to open the intestine itself. The last mode seemed to me the most advisable, both because the patient was already very much exhausted, and because the operation would be sooner completed. The intestine was opened at the end of the discovered intus-susceptio, and immediately a part of the strictured intestine came into view. I introduced my finger into the opening in the intestine, which was made about two inches in length, and gradually pushed the intus-suscepted part back from the right to the left side, whilst I gently drew that part of the intestine which contained the intus-susceptio, towards me. By this means, I fortunately succeeded in unfolding the entangled intestine, which amounted to two feet in length. There was not the slightest trace of inflammation, nor any thing unnatural to be discovered in the part; there was merely a round worm which was situated in the upper part of the intus-susceptio. Of the mercury which had been employed, I could not find any remains, although I examined the duodenum and stomach; afterwards, also, there was no trace of it seen. The intestine was brought together by means of six spiral-form stitches, after the manner of the glover's suture,* and the end of the silk was allowed to hang out of the external wound in the abdomen. The integuments were brought together by four interrupted sutures (Knopfrath,) dressings were laid over these, and, lastly, a bandage similar to Monro's bandage was applied. The patient was put to bed, and received some chicken broth. After the operation, no medicines were given, but we confined ourselves merely to regulating the diet of the patient, which, for the few first days, consisted of gruel and chicken broth, alternately changed. The colic pains left the man immediately after the operation, and he had a natural evacuation on the night of the 21st and 22d. On the 4th day, the bandages were removed, on account of their tightness, and the distention of the abdomen. The wound had a very good appearance, being only a little red; the discharge was moderate. On the 8th day the wound was nearly closed, excepting at the lower part, where the silk hung out of the abdomen; the sutures were this day removed. From this time, the patient mended daily, was quite free from pain, and, on the 14th day, he was completely cured, and continues well, up to the present time. I endeavoured to pull the silk away, but in vain, and in six weeks after, I cut away the portion which hung out of the wound, and left the remainder to its fate.

The physicians who have described this disease, vary as to its diagnostic marks. Some physicians state, that volvulus or intus-susceptio can occur without constipation or pain. (Vid. Selle Medicina Clinica, p. 454.) Haller also relates several cases where important intus-susception existed without constipation. (Elementa Physiol. Corp. humani, Tom. VIII. p. 94.) Without wishing to underrate the value of such an authority, I must be allowed to state, that I believe complete intus-susceptio, on the other hand, cannot occur without constipation and pain; in very slight and imperfect intus-susceptio, these symptoms may certainly be absent, and such cases will scarcely require an operation, which is merely necessary in those of perfect intus-susceptio, with obstinate costiveness, that cannot be subdued by other means. Moreover, the cases from Haller were only examined after

* This suture (sutura pelliorum, suture des pelliors, and in German die *Darmor Kürschnernath*) is almost solely employed in wounds of the intestines. A very fine thread is always necessary for this suture, and in this case, fine silk was used. Ed. of Ed. Med. J.

death, and not seen by him in the living state, whereby it is possible that the pathological state was the last effort of nature, and took place *in articulo mortis*. In the foregoing case, ileus, in combination with intus-susceptio, was known by the following marks. 1. Periodical pains, proceeding from one particular spot, and extending themselves over the whole abdominal region, and which were most severe in the part from which the first proceeded. In several kinds of colic, also, the pain is periodical, as in the pure colica spasmodica; but in this case, the known signs of spasm, which are present, are wanting in ileus *ab invaginatione*. 2. The spot from which the pain proceeded was like an induration within the integuments of the abdomen. This induration is the seat of the intus-susceptio, and can be most distinctly felt during a paroxysm of the pain, when it is more elevated, hardened, and sensible to the touch. The hardness arising from intus-susceptio can be easily distinguished from other indurations of the viscera, as of the liver, stomach, spleen, pancreas, partly by their situation, and partly by their chronic occurrence, and the disturbance which must have been previously excited in the functions of those parts. 3. The pains were exactly the same as in labour pains, the patient eagerly sought for some place, so as to be able to bear down with greater power.

In opening the abdomen, I should recommend, when the indurated part is to be felt, as in this case on the right side, not to make the incision directly over the hardened spot, but in the linea alba; because then one can get at the intestines on each side better, and the commencement of the intus-susceptio will be more easily reached in which case, the opening of the intestine becomes unnecessary. Should the commencement of the intus-susceptio not be within reach, and it becomes necessary as in the present case to open the intestine, I should recommend the ligature to be cut off close to the intestine, in preference to letting it hang out of the wound, because it is impossible to remove it without pulling the intestine, and bringing the gut out of its situation. The healing of the wound also will be promoted by the plan I now recommend, because the thread is apt to excite heat, inflammation, and unnecessary discharge of matter. On the primary cause of this complaint there is a great deal of obscurity, but the proximate cause, according to my opinion, is a peristaltic action of an intestine or a part of an intestine in two opposite directions at the same time, so that the action is from above and below at the same instant, by which then one portion can be easily included in the other, the upper part extending itself, whilst the lower is contracting. The remote causes may be very numerous, spasms, irritating substances in the abdomen, such as worms, &c. Whether worms, one of which was found at the beginning of the intus-susceptio, produced the complaint in this case, I will not venture to say; some physicians, however, lay stress on this point. Vid. MORGAGNI *de causis et sedib. morb. Tom. II. p.* 176.—*Edinburgh Med. and Surg. Journal, July*, 1825.

13. *Non-Contagious Nature of Yellow Fever.*—Dr. COSTA read, before the Royal Institute of France, a Memoir on this subject. The facts and observations related in this work have been collected from the sources of the disease; Dr Costa having been physician to a lazaretto. After describing the state of affairs at Barcelona, and the precautionary measures adopted on the frontiers, which he considers as very inefficient, had contagion really existed, the author does not hesitate to affirm that the disease is not contagious. Nay, so persuaded is he of this fact, that, together with MM. LASSIS and LASSERRE, he proposes to make experiments on the subject. He requests that clothes which have been worn by persons who have died of the disease, may be sent to him from the Havannah, or wherever the disease is found to exist: these clothes, hermetically sealed during the passage, shall be worn by these gentlemen, without making use of any disinfecting medium.—*Revue Medicale*, Août.

14. *Treatment of Persons bitten by Mad Dogs, or Dogs supposed to be Mad, in the Hospital at Zurich.* By Dr. Locher Balber. On the perusal of the mode of treatment adopted by Wendt and Breslau, for the prevention of hydrophobia after the bite of a mad dog, I was particularly struck with the similarity of the treatment adopted in Breslau and Zurich, and on the singular coincidence of their results. They have been both tried during a long series of years, and are now made known, for the first time, after their efficacy has been ascertained in hundreds of cases. If a priority of age has any thing to do with them, the Zurich treatment is undoubtedly entitled to it, since it was introduced in the year 1783, whilst that in Breslau has been adopted only since 1797. Who is the real suggester of this treatment, is not now with certainty known; most probably it was Dr. J. C. Hirzel, senior, the archiater and physician of the Zurich hospital at that time. The treatment is as follows: Deep scarifications of the wound, besmearing it with the pulvis lyttæ, application of a blister in the neighbourhood of the part, keeping up of suppuration, both in the blistered and wounded part, during six weeks, and the rubbing in of mercurial ointment till symptoms of approaching salivation come on. Internally, the adults take, for three weeks in succession every morning, and after that period, for some time longer, every other morning, fasting, a powder composed of five grains of powdered belladonna; for which, when no trace of salivation shows itself, or if the patients come under treatment only a few days after the receipt of the wound, calomel should be substituted, or be given from the very commencement. The object of giving these moderately large doses of belladonna, is, that the patient should from each dose have the symptoms of incipient intoxication, at least dryness of the throat, glimmering or haziness before the eyes, vertigo, and afterwards perspiration. Then a diaphoretic mixture of liquor ammoniæ acetatis and succinat, with copious potions of tea, is ordered for the patient, and a diaphoretic regimen recommended. He must remain in bed the four first weeks after the accident, and receive no animal food. "I lay," (says Dr. Rahn, one of the physicians to the hospital,) "a great deal, and indeed, by far the greatest stress on the external treatment. But still I think we could not safely rely on the external alone; but internal means must be given at the same time, and regularly continued, as we do not know how rapidly a part of the poison brought into the wound may be absorbed, and which can only be destroyed by the action of internal remedies." If the clothes are also bitten, they are always burnt.

According to this mode, there have been treated in the forty-two years since it has been in use, (from 1783 to 1824 inclusive,) two hundred and thirty-three persons who have been bitten, viz. one hundred and eighty-two from dogs, fifty from cats and foxes, and one by a *martin* (mustela.) In the ten years from 1783 to 1792, there were treated thirteen persons who were bitten by dogs supposed to be mad, and eighteen by dogs of whose madness there was not the least doubt, (it is certainly not stated by what means the madness of the dogs was proved,) by a cat supposed to be mad, one; and by mad cats, five; making in the whole, forty-seven. From 1793 to 1802, by dogs suspected to be mad, fourteen; by dogs absolutely mad, twenty; (all these in the years 1793, 1794, 1796, and 1797,) by a cat suspected to be mad, one and six by cats in a state of real madness, making altogether, thirty-one. From 1803, no particular mention was made in the books, between dogs which were only suspected to be mad, and those which were really in a state of madness. From 1803 to 1812, bitten by different beasts, there were admitted sixty-seven; and from 1813 to 1824, (inclusive,) there were admitted seventy-eight bitten persons; and from these, thirty-six were bitten in the years 1820 and 1823 by mad dogs. From these two hundred and thirty-three bitten persons, many were admitted on the second, third, fifth, sixth, seventh, tenth, and fourteenth day, and even five and eight weeks after the wound had been received. From the whole, four only

died; two in 1784 and 1791, on the second day after their admission, and consequently scarcely submitted to the influence of the treatment. Of the other two, one (a woman) was bitten on the inner and outer side of the mouth, and the other, a child, on the eyelid, so that the prescribed means could not be employed with the requisite and usual exactness.

So much for the treatment and the results with which it has been attended. We see, however, three important remedies recommended, in conjunction with each other, for the prevention of hydrophobia. The question is, whether it is necessary that these three medicines should be joined together; or can any one of them be employed singly with safety? Before I proceed to answer these questions, I beg to be allowed briefly to state some other modes of treatment very similar to that employed at Zurich, and then to compare their results, in order that I may found my answers upon them. The mode of treatment recommended by Wendt (*vid* Review,) in his work, is as follows:—filling of the wound with *pulvis lyttæ*, and the keeping up of a copious discharge for six weeks; besides this, rubbing in of mercurial ointment, and the giving of calomel internally for six weeks, so that a severe salivation be kept up. Of one hundred and six who were bitten by mad dogs between 1810 and 1823, two only died. There were seventy-eight persons besides these treated; but the animals were proved not to be mad, and, consequently, the treatment was modified. In the *Beobachtungen und Abhandl. aus die Heilkunde*, (Bd. I.) conducted by some Austrian physicians, the senior surgeon of the large hospital at Vienna, T. M. Axter, has published an account of the treatment pursued by him in cases of bites from animals during the last twenty-seven years; and, during the whole period of that time, not a single old patient was ever brought back to the hospital with hydrophobia. During three or six days in succession, he gives internally a grain of *pulvis lyttæ*, with six grains of *canc. ocul.* and sugar; externally, over the wound, a blister was applied, and then it was dressed with the *pulvis lyttæ*, or washed with some stimulating lotion during the space of six weeks. I regret that I have only been able to see a short extract of Dr. Axters account in the *Salzburger Zeitung*, (1820, B. I. p. 23,) where more minute particulars are not to be found. Dr Hausbrand, district physician at Braimsberg, has given in Hufeland's Journal for 1821, (Part II. p. 21,) the following treatment: first, active blood-letting, (this is only to be pursued, however, when the patient applies soon after the accident,) deep scarifications of the wound, promotion of the bleeding, washing of the wound with salt and water, and the application of an ointment composed of unguentum basilicum and powdered cantharides, or a large blister over the wound, and keeping up of the suppuration during the space of three months at least. Internally, the patients were to take, for three evenings, a powder composed of camphor and opium, drink elder tea, and keep up a copious perspiration. There are only eleven cases given by Dr. H of persons who were bitten by dogs absolutely mad, and treated in this manner by him; but they all recovered.

On looking at these four different prophylactic modes of treatment, we perceive that, as to the external treatment, it is essentially the same, but that the internal differs in each; but, still, they have been all attended with the same fortunate results. In Breslau, the patients were kept in a state of salivation for six weeks; of more than a hundred patients, only two died; and the wounds of these persons were so situated, that the local means could not be applied with the same effect as in the other cases. In Zurich, the patients are never brought into a state of complete salivation; the belladonna is continued six weeks without intermission, and the patient is kept in a state of perspiration. Of more than one hundred patients (I will allow that only half of the two hundred and thirty-three were bitten by mad animals) only two died; and the wounds of these persons were in such a situation, that they could not be properly treated. Dr. Hausbrand gives

neither quicksilver, but certainly keeps up perspiration, during the three or four first days, by opium and camphor; and has, hitherto, not lost a case. Mr. Axter gives to his patients nothing, with the exception of a grain of cantharides, during a few days after their reception into the house; and he has also been equally successful in his treatment. From these facts the following conclusions may be drawn. 1. Neither quicksilver, nor belladonna, nor diaphoretics, are of themselves able to prevent the occurrence of hydrophobia. 2. If one be not warranted in saying the same of cantharides, still, its internal use may be dispensed with. 3. The local treatment is the only sure and certain preventive against the recurrence of the complaint. If, after these four different modes have now been generally made known, we should still hear of persons dying after the bite of mad dogs, it will certainly be a matter of astonishment; and the fault will either be in the patient's not applying for relief in proper time, or in the physician, for being ignorant of those valuable but simple modes, and trying other plans of treatment less sanctioned by the list of experience.—*Hecker's Litterarische Annalen der gesammten Heilkunde. June*, 1825.

15. *Treatment of Cataract, with Cases.* M. Louis Francis Gondret has published a paper in the 'Journal de Physiologie' upon the treatment of cataract, in which he advocates the employment of curative means, as equally called for as in amaurosis, or other diseases of local plethora, independent of the operation.

*Case 1st.* M. Pepin, aged fifty-nine. Suffering from violent pains in the head. Cataract of four years' duration in the left eye, and vision quite lost. The right eye presented a grayish point in the centre of the crystalline, a characteristic mark of an incipient cataract; the patient unable to read for any length of time without fatigue; often his vision is totally lost; the lines (*filamens*) which he had perceived for nine years with the right eye, are increased in number. The pupils are moderately dilated, and little moveable.

Curative means—cauterization in the fore part of the head, 4th April 1822.

May 22d. The cloud which appeared to cover the shade of the crystalline is less apparent; the vision is stronger: the lines remain. An electrical current, produced by a voltaic curve of three plates, and directed against the right superciliary nerve and the right eye, rendered the sight clearer for an instant, but the nerves received a shock that endured till the next day.

June 1st. The right eye is quite clear; the sight becomes much stronger.

July 22d. The cloud of the right crystalline has re-appeared; vision is slightly obscured. The issue made on the forehead is very superficial, and not more than three or four lines broad; it was enlarged and rendered deeper by the application of an ammoniacal paste.

August, 1822. No opacity in the crystalline of the right eye; sight strong; the white colour which the cataract of the left eye presented, has taken a grayish tint.

June 1823. The right eye perfectly recovered. The crystalline of the left eye becomes more and more of a dark gray; the vision of this eye confined to the perception of light.

April, 1825. The cure of the right eye has been permanent. The cataract in the left eye is scarcely visible, but the sight has not improved.

*Case 2d.* Jean Jacques Henriet, aged seventy. Two cataracts. Vision for a long time lost in the left eye, where the disease is complete. The right eye, in which the cataract is perfectly evident, has been sensibly weakened for many months.

October 1822. Actual cautery employed. The wound kept open four months. Electricity employed in the same way as in the last case. Attention paid to the bowels. The opacity of the right crystalline gradually dis-

appeared. Vision entirely restored. There was some improvement in the left eye, but it did not continue.

April 1825. The vision of the right eye has continued good for two years. He is now seventy-two.

There are seven other cases of the same kind, and all more or less corroborative of the propriety of M. Gondrets' suggestions.—*Lond. Med. Rep.*

16. *On the Malignant Pustule of Butchers, &c.*—It is well known that butchers, veterinary surgeons, &c. and all those persons who handle the hides of dead animals, in which the putrefactive process has commenced, are subject to be affected with the malady denominated in this country the *malignant pustule*, unless they take particular precautions to cleanse their hands from the blood, &c. with which they are imbued. It appears from a paper communicated by Dr. Basedow, of Merseburg, that this interesting and severe disease has been more than usually common in Germany. Dr. Basedow entitles the disease "die schwarze pocke," the *black pock*.

The first patient was a shepherd, who had lost some sheep by disease, and, on the dissection of one of them, a little serum spurted into his face. The spot thus sprinkled with the fluid of the animal became the primary seat of the disease. He rubbed the part dry with his hand, and thought no more of the circumstance. Six days afterwards he remarked, whilst he was shaving, a little blister upon his cheek. An itching, which was felt in the part, was relieved by dividing this small vesicle. Others appeared on the following day; and the lips of the patient were observed to be considerably thickened. The swelling of these parts soon became very dreadful, and, in three days after the first eruption, there was an extensive gangrene of the cellular membrane. The original point of infection, and around it to the extent of a half-crown, was of a black colour, and the skin perfectly gangrenous. The lips were so considerably thickened, as to project one and three-quarters of an inch from the teeth. The tongue, gums, and throat, were free from swelling or redness. No pain was felt; considerable pressure made upon the swollen parts produced only a dull sensation. Around the part which was gangrenous and tumid, there was considerable redness of the skin, which extended upwards to the forehead, down the neck behind, and, in the anterior part, to the epigastric region. In two days it passed to the scrotum. The fever which usually attends the disease at this period was not present; there was no delirium. The patient was dull, but not deprived of his senses. The return of blood from the head was impeded by the excessive swelling of the neck, which pressed upon the jugular veins and windpipe. Dr. B. prognosticated an attack of apoplexy, unless a considerable diminution of the swelling speedily took place; and the patient died three days after his first visit. It is worthy of remark, that he was throughout perfectly free from any symptoms of gastric derangement.

The second case is that of a Frau Berger, whom Dr. B. found complaining of a bad arm, when he was visiting another patient in the house. Eight days before, a cow belonging to this woman had died. The beast had first lost its appetite, was restless, and sweated copiously. Bleeding was tried, and a few drops of blood during the operation flew upon the woman's arm, and inoculated her with the poison. In two days she felt an unpleasant sense of contraction of the upper arm; and, on the third day, much itching and heat on a small spot. Before any swelling occurred, a small vesicle appeared above the wrist, and others shortly made their appearance near the same part. The lower vesicle only made the rapid progress which characterizes the malignant pustule. On the second day after its appearance it burst; beneath it was a knot of a darkish colour, and surrounded with bluish vesicles. The hand and arm were swelled and inflamed. The axillary glands were affected slightly. Constitutional symptoms followed. The patient ultimately recovered.

It is evident, from this account, that the disease differs but little from that

described by Orfila, under the title of "la pustule maligne." Chaussier and Enneaux have also treated of it. The nearer the original point of infection is to the centre of vitality, the greater is the danger. When the face and neck are affected, there is much hazard. The intensity of the morbid poison differs, in common with others,—as, for example, the syphilitic. It is to be lamented that the incipient symptoms of this disease are so slight, as scarcely to attract attention.

According to Dr. B., in the stage of the simple vesicles, caustic washes will be sufficient to destroy the disease; or, perhaps, some irritating dressing may answer the purpose. If the disease has proceeded further, the actual cautery, or the sulphuric or muriatic acids, or the butter of antimony may be required. A crucial division of the part is recommended at the commencement of the second period. When still further advanced, it will be necessary to cauterize the part previously to the use of the knife, in order to be enabled to divide the parts affected which lie deep. Any means which promote absorption are prejudicial—as purgatives, bleeding, and emollient applications. Opium will be of service. At the end of the third, and in the fourth period, a different treatment is required. Very free scarifications will be necessary, although we can hope but for little benefit from them if there is very extensive gangrene of the cellular membrane. The external applications should consist of bark, camphor, and spirits. The attendant fever will, of course, demand attention. Stimulating antiseptics, internally given, will prove certainly injurious, before the inflammatory period has run its course.—Graefe und Walther's *Journal der Chirurgie*, siebenter bund, zweites heft.

## MEDICAL INTELLIGENCE.

1. We have been favoured with the following continuation of some remarks, made in page 100, of this number, on Cinchona Bark, by George W. Carpenter, to which we beg leave to call the attention of the profession.

After having found the best species of Peruvian bark by the several distinguishing and specific characters, one very important adventitious character yet remains to be investigated. It is a fact established beyond controversy, that age is a very powerful agent in deteriorating the active properties of bark, insomuch that the best species of Peruvian bark, when old, is little superior, and sometimes even inferior to Carthagena bark when fresh; hence it is that large parcels of a superior species of Peruvian bark, which would have commanded at least two dollars per pound at Cadiz when fresh, has been offered publicly in this city for twenty-five cents per pound, and that without a purchaser, and which it appears has been operated upon by no other unfavourable agent but age. In what manner or by what process age, or rather the circumstances connected with age, acts upon bark, other than an oxidisement or volitilization of its active principle, I know not. Fabroni states, that cinchona loses its solubility, and consequently its activity, by long exposure to the air, but does not give his opinion as to the manner in which it is thus affected. I cannot however conceive, under existing circumstances, how the solubility of Peruvian bark can be diminished, except through the agency of oxygen; and it is by this means the extract of bark, prepared according to the common formulas of our dispensatories, are devoid of utility: for, owing to the oxidisement of the extractive matter, the solubility of the extract is so diminished during its formation, that scarcely one half is soluble in water.

From a number of experiments which I have made upon Peruvian bark in different states, I have observed as an unequivocal result, that the same species of bark, which when fresh, is very productive of quinine, when old, will produce little or none of that active principle, upon which its virtue as a medicine depends.

It will appear therefore, an important duty, critically, to examine the

state of bark as to its age; and it would perhaps be useful in this place to describe the physical characters of bark in this state. The prominent features which characterize old bark, and distinguish it from recent, are the following: old bark has lost that bitter and astringent taste and peculiar aromatic odour which are so prominent characteristics of recent bark of good quality. The specific gravity is also sensibly diminished, and the fracture, instead of being shining and compact, is dull, fibrous, and of a loose texture, and the colour very frequently passes from a bright orange to a dull brown, as the bark advances in age. By attention to these few conspicuous characters, taste, smell, specific gravity, fracture and colour, no mistake can arise in the selection of good bark, unless there is a gross deficiency of judgment. Yet notwithstanding the distinguishing characters of Peruvian bark in these two states are so prominent and striking, we regret to say, that gross mistakes have publicly been made in this particular, and by men, who we might suppose most capable of appreciating the quality under the influences of every incidental circumstance.

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2. Extract of a letter from Dr. Cheesman, one of the surgeons of the New York Hospital, on the subject of Amesbury's apparatus.

*New-York* 12*mo.* 17*th*, 1825.

I feel pleasure in being enabled to state, that I have applied Amesbury's apparatus to several patients, both with simple and compound fractures, as early as the ninth day after the injury, and in every instance they have been comforted by its application, and the fractured bones have been more completely coaptated, and kept in their place, than by the use of those splints that surgeons have heretofore been in the practice of applying. But the above named advantages are not all it enables a patient to be removed from his bed immediately after it is applied (in place of being confined almost to one position from four to six weeks, which under ordinary treatment is the case) and with the aid of crutches, he can transport himself wherever his general strength will enable him to go. In fine, I consider it an invaluable acquisition in the treatment of those surgical diseases, for which it was designed.

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3. *To the Editor of the Medical Recorder.*

In the last number of the Medical Recorder, for October, 1825, in the review of the Philadelphia Journal of the Medical and Physical Sciences, a critical notice has been taken of a certain letter of mine, addressed to a medical friend, on the use of injections of very cold water in dysentery, and which the editors of the Philadelphia Journal had done me the honour to insert, catching it in its ephemeral flight through the newspapers. I most heartily concur in the opinion expressed by the conductors of the Journal, as well as by the Reviewers in the Recorder, that the newspapers are not the proper vehicles through which remedies for diseases are to be promulgated, nor was it ever intended by me that any sentiments of mine upon medical subjects should be, in a formal manner, conveyed through that medium. If that letter had been viewed with the indulgence that I think it deserved, it could scarcely have failed to be seen, that it was couched in terms of that easy familiarity which so commonly characterizes epistolary correspondence among friends, and that the most distant idea had never been entertained of drawing upon me the erudite but pointed animadversions of the highly respectable conductors of the Medical Recorder. My worthy and honourable friend to whom it was addressed, in sending that letter to a newspaper, was solely actuated by the benevolence and good will which so pre-eminently distinguish him in public and in private life. But, however unexpected, and under whatever disadvantages my opinions upon the nature and treatment of dysentery may have been brought under the eye of the medical critic, I have no hesitation in averring the correctness of the practice resorted to by me in the cases therein related, warranted by the salutary result; a result well known to my professional friends and

others in the neighbourhood of the respectable family in which those cases of dysentery occurred. It is not, however, my present purpose, in this brief communication, to enter upon a defence of my practice in this disease, founded upon any new views of its pathology or treatment; my object is simply to obviate those unfavourable impressions which the remarks in the review cannot fail to produce. In the language of this review it is stated, "Cold water is given by Dr. Baker in the form of injection, *which renders it more inefficient, as it is a local application for a general disease.*" To which I reply, I did never attempt to cure a general disease by a local application of remedies. I used cold water only as an assuasive, and as an auxiliary local remedy, in conjunction with other things which were applicable to the diseased state of the whole system. Nor can I conceive how a different inference could have been drawn from any thing I have stated. But will it, I ask, be denied, that dysentery has a local existence? Depending, indeed, as it may, and as I believe it does, upon causes that influence the whole system, yet surely no argument can be adduced in support of the "inefficiency" of a remedy for local purposes, because it is locally applied where the disease locally exists. The dysentery is said to be, in the words of the review, "a general disease;" but, with all due deference to this very respectable authority, I fancy it will not be denied that it has a local existence: then how, I would respectfully inquire, is "inefficiency" of the remedy to be inferred because of its local application? Mucilaginous injections, with a portion of sulphate of zinc, weak solution of the acetate of lead, laudanum, &c. have long been "*local applications;*" does it therefore argue their "inefficiency" in alleviating tenesmus, and other painful symptoms? Surely not. Neither do I conceive does it argue the "inefficiency" of the local remedy of cold water, when applied to the inflamed coat of the intestine, with the view of lessening that inflammation. Alluding further to the use of cold water, the review remarks—"*It has long been known, and its administration requires care.*" I never claimed originality in the employment of this remedy. I was long ago familiar with the writings of Signor Rosa, Dr. Lind, and others. My expression was, that "*the practice was in some degree novel,*"* meaning in this country, and I must be permitted still to maintain that it is by no means a common practice in the United States. The result of this practice, in the cases referred to by me, I again asseverate was most happily successful, maugre the high and respectable opinions of Celsus and of Zimmerman, in opposition to the use of cold water, cited by the reviewers, to the contrary notwithstanding. *Experientia docet* is a maxim cherished by those who ardently aim at the attainment of truth; and even should it come in collision with the hypothetical opinions and speculations of the highest ancient or modern authorities, I, for one, will make that maxim my polar star.

W. BAKER.

*Washington City, Nov. 10th,* 1825.

We publish the foregoing letter, as an evidence of our disposition to correct any views which may have been considered as hasty or improper in this Journal. Dr. Baker's practice of the use of cold water in dysentery, is opposed by the testimony of Dewar, whose experience was most extensive with the British army in Egypt: by Dr Zimmerman, which is no less so also, by Tissot, two of the greatest and most experienced men of the last century. Dr. Baker brings six cases to combat this great phalanx of authority, and in the treatment of these he combined other remedies. He cannot, therefore, certainly draw a fair conclusion, with regard to their efficacy, from cases so few in number, which were prescribed under circumstances which preclude the possibility of a conclusion. The object of our former remarks on this communication, was to show the danger of committing to the hands of the public a practice which had already proved to be dangerous, and not to hurt Dr. Baker's feelings, or those of his friend.

* See my letter, inserted in the Philadelphia Journal.

*Medical Society of the Valley of Virginia.*

4. At a meeting of a number of the physicians of Winchester and its vicinity, in May last, for the purpose of forming a Medical Society, it was unanimously

*Resolved*, that such a society be formed, and that it be denominated "The Medical Society of the Valley of Virginia." The society then adjourned, and met again on the 6th of June, adopted a constitution for its government, and elected by ballot the following officers for the ensuing year:—

*President*, JOHN E. COOKE, M. D.

*Vice-Presidents*, ROBERT T. BALDWIN, M. D. TALIAFERO STRIBLING, M. D.

*Recording and Corresponding Secretary*, JAMES W. THOMSON, M. D.

*Treasurer*, HUGH M. M'GUIRE, M. D.

*Librarian*, ARCHIBALD S. BALDWIN. M. D.

*Orator*, JAMES W. THOMSON, M. D.

The following circular, addressed to the physicians of the Valley, by order of the Society, at the August meeting, presents a correct and general view of the important objects of its formation.

*Circular.*

At a meeting of the Medical Society of the Valley of Virginia, in Winchester, on the first day of this month, it having been represented that several physicians of the Valley had sought, through the medium of the public prints, and otherwise, information respecting the object of the society, it was unanimously resolved, that the president and secretary publish a statement on the subject, for the satisfaction of those who feel solicitous for the improvement and welfare of the profession.

Several physicians of the Valley, desirous of associating for the purpose of mutual improvement, &c. invited the attention of the physicians of the Valley to the subject, by notice in the public papers, in the month of May last, and requested a meeting on the 6th June, at Winchester On that day a number assembled, organized the society and adopted rules for its government. The objects of the association are, the investigation of the nature and proper treatment of various diseases of the human race, and of other subjects agitated among medical men. The collection of scarce and valuable books, plates, &c. which individually they can scarce hope ever to obtain, the regulation of their medical intercourse, &c. An essay is to be read at every meeting, and the subject discussed by those who feel disposed, whence will arise an interchange of opinion, and modes of practice, whereby it is believed, that all will improve, and those especially who live in comparative retirement will have old impressions revived, their minds stimulated to the recollection of truths fast fading away, and to the acquisition of new truths, offered in such abundance to the medical world, as to make the present time an era in the sciences, whereby their ability to contend successfully with disease will be increased, and the public be greatly benefited. As the object is mutual improvement, that the benefits of the institution may be extended as far as possible, no other qualification for membership is required than "good moral character, respectable qualifications, and conduct." With the same view, medical students are received as junior members, with the privilege of reading essays, if they please, but there is no obligation on them to do so. The members are to pay five dollars entrance, and three dollars annually—the junior members two dollars entrance, and nothing afterwards.

The regular meetings of the soceity are on the Monday, before the first Tuesday, in the months of March, April, June, August, October November, and December, at 3 o'clock in the afternoon, in the Common Council Hall, in Winchester.